

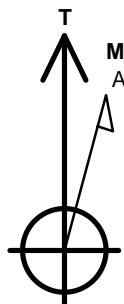
# PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Rio-LA 6F-434**

Surface Location: Rio-LA 1S67W6E Pad Sec.6-T1S-R67W  
 North American Datum 1983 , US State Plane 1983, Colorado Northern Zone  
 Ground Elevation: 5070.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1242737.92 3156953.22 39.998340 -104.939770  
 RKB -13' WELL @ 5083.0ft (RKB -13')

## DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
50°N/S Hardline (6F-434)	1.0	-1055.9	-2875.3	Rectangle (Sides: L4223.9 W100.0)
SHL 729'FNL & 158'FWL, Sec.6	1.0	0.0	0.0	Point
BHL 1783'FNL & 500'FWL, Sec.1	7903.0	-1055.9	-4987.2	Point



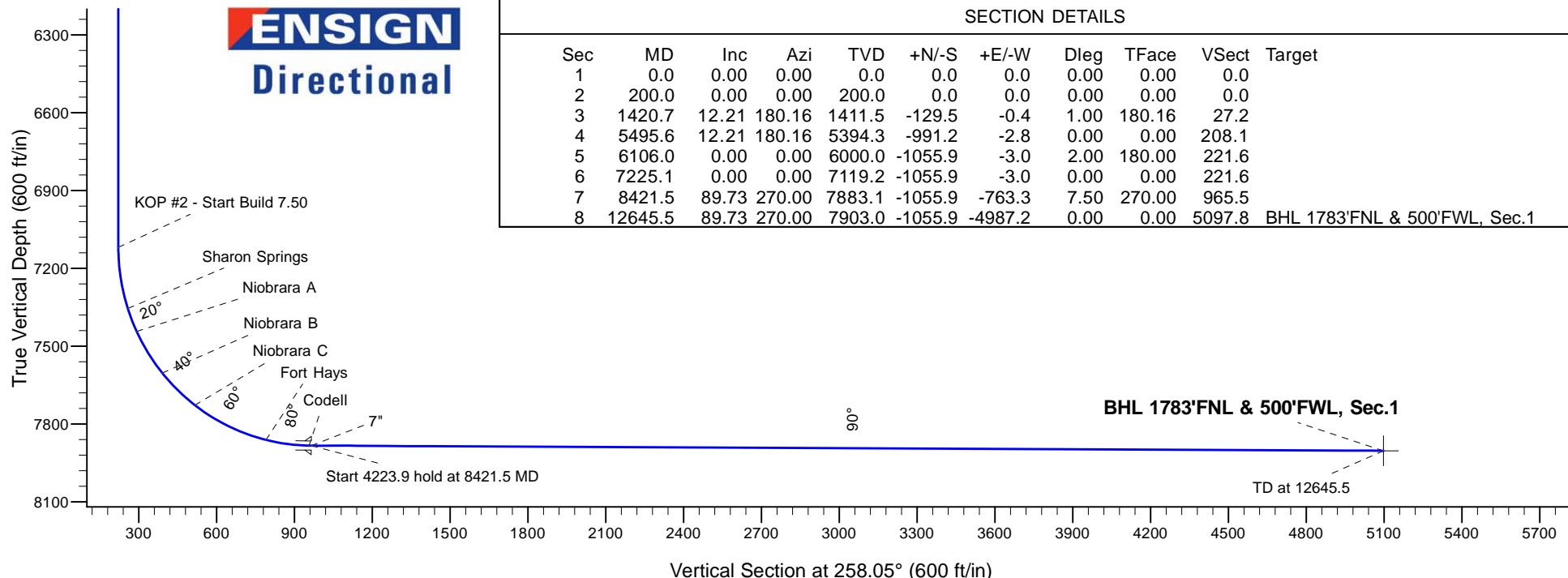
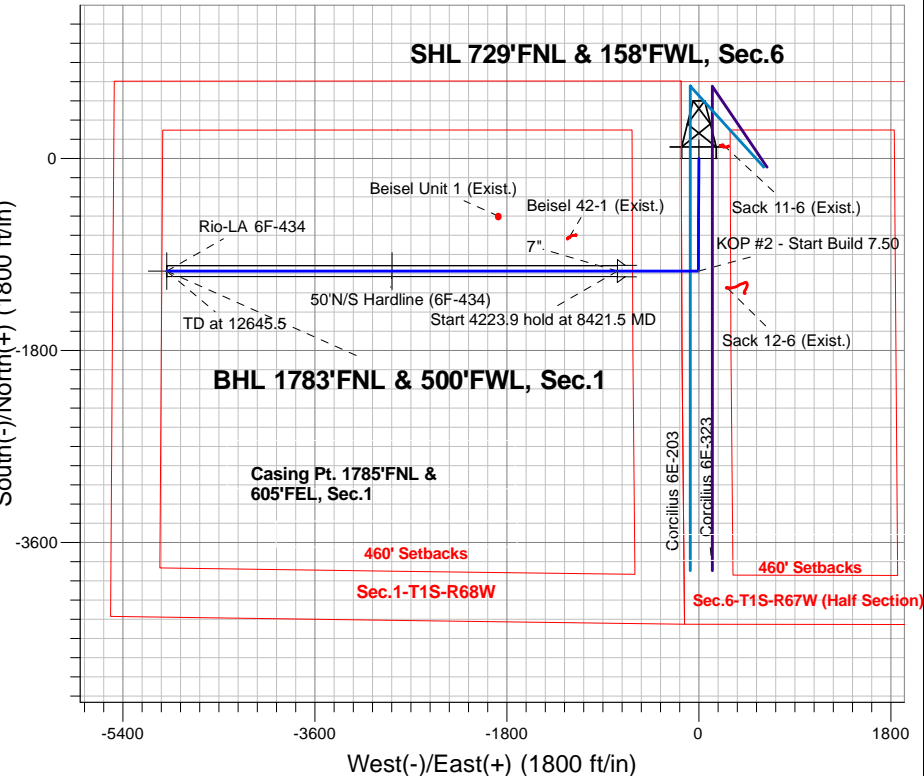
Azimuths to True North  
 Magnetic North: 8.37°  
 Magnetic Field  
 Strength: 52464.3snT  
 Dip Angle: 66.56°  
 Date: 8/4/2015  
 Model: IGRF2010

## ANNOTATIONS

TVD	MD	Annotation
200.0	200.0	KOP - Start Build 1.00
5394.3	5495.6	Start Drop -2.00
7119.2	7225.1	KOP #2 - Start Build 7.50
7883.1	8421.5	Start 4223.9 hold at 8421.5 MD
7903.0	12645.5	TD at 12645.5

Rio-LA 1S67W6E Pad Sec.6-T1S-R67W  
 Rio-LA 6F-434  
 Plan #1 (8-4-15)

South(-)/North(+) (1800 ft/in)



## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	1420.7	12.21	180.16	1411.5	-129.5	-0.4	1.00	180.16	27.2	
4	5495.6	12.21	180.16	5394.3	-991.2	-2.8	0.00	0.00	208.1	
5	6106.0	0.00	0.00	6000.0	-1055.9	-3.0	2.00	180.00	221.6	
6	7225.1	0.00	0.00	7119.2	-1055.9	-3.0	0.00	0.00	221.6	
7	8421.5	89.73	270.00	7883.1	-1055.9	-763.3	7.50	270.00	965.5	
8	12645.5	89.73	270.00	7903.0	-1055.9	-4987.2	0.00	0.00	5097.8	BHL 1783'FNL & 500'FWL, Sec.1



# **PETROLEUM DEVELOPMENT CORP Weld County CO**

**SEC.6-T1S-R67W**

**Rio-LA 1S67W6E Pad Sec.6-T1S-R67W**

**Rio-LA 6F-434**

**Wellbore #1**

**Plan: Plan #1 (8-4-15)**

## **Standard Planning Report**

**11 August, 2015**

<b>Database:</b>	US_EDM	<b>Local Co-ordinate Reference:</b>	Well Rio-LA 6F-434
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Project:</b>	SEC.6-T1S-R67W	<b>MD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Site:</b>	Rio-LA 1S67W6E Pad Sec.6-T1S-R67W	<b>North Reference:</b>	True
<b>Well:</b>	Rio-LA 6F-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (8-4-15)		

<b>Project</b>	SEC.6-T1S-R67W, Adams County, CO		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

<b>Site</b>	Rio-LA 1S67W6E Pad Sec.6-T1S-R67W		
<b>Site Position:</b>		<b>Northing:</b>	1,242,767.06 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,156,950.24 usft
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	13-3/16 "
		<b>Latitude:</b>	39.998420
		<b>Longitude:</b>	-104.939780
		<b>Grid Convergence:</b>	0.36 °

<b>Well</b>	Rio-LA 6F-434		
<b>Well Position</b>	<b>+N/-S</b>	-29.2 ft	<b>Northing:</b>
	<b>+E/-W</b>	2.8 ft	<b>Easting:</b>
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b>
			0.0 ft
			<b>Latitude:</b>
			39.998340
			<b>Longitude:</b>
			-104.939770
			<b>Ground Level:</b>
			5,070.0 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	8/4/2015	8.37	66.56	52,464

<b>Design</b>	Plan #1 (8-4-15)			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	258.05

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,420.7	12.21	180.16	1,411.5	-129.5	-0.4	1.00	1.00	0.00	180.16	
5,495.6	12.21	180.16	5,394.3	-991.2	-2.8	0.00	0.00	0.00	0.00	
6,106.0	0.00	0.00	6,000.0	-1,055.9	-3.0	2.00	-2.00	0.00	180.00	
7,225.1	0.00	0.00	7,119.2	-1,055.9	-3.0	0.00	0.00	0.00	0.00	
8,421.5	89.73	270.00	7,883.1	-1,055.9	-763.3	7.50	7.50	0.00	270.00	
12,645.5	89.73	270.00	7,903.0	-1,055.9	-4,987.2	0.00	0.00	0.00	0.00	BHL 1783'FNL & 500'

Database:	US_EDM	Local Co-ordinate Reference:	Well Rio-LA 6F-434
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 5083.0ft (RKB -13')
Project:	SEC.6-T1S-R67W	MD Reference:	WELL @ 5083.0ft (RKB -13')
Site:	Rio-LA 1S67W6E Pad Sec.6-T1S-R67W	North Reference:	True
Well:	Rio-LA 6F-434	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (8-4-15)		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00	
KOP - Start Build 1.00										
300.0	1.00	180.16	300.0	-0.9	0.0	0.2	1.00	1.00	0.00	
400.0	2.00	180.16	400.0	-3.5	0.0	0.7	1.00	1.00	0.00	
500.0	3.00	180.16	499.9	-7.9	0.0	1.6	1.00	1.00	0.00	
600.0	4.00	180.16	599.7	-14.0	0.0	2.9	1.00	1.00	0.00	
700.0	5.00	180.16	699.4	-21.8	-0.1	4.6	1.00	1.00	0.00	
800.0	6.00	180.16	798.9	-31.4	-0.1	6.6	1.00	1.00	0.00	
900.0	7.00	180.16	898.3	-42.7	-0.1	9.0	1.00	1.00	0.00	
1,000.0	8.00	180.16	997.4	-55.8	-0.2	11.7	1.00	1.00	0.00	
1,100.0	9.00	180.16	1,096.3	-70.5	-0.2	14.8	1.00	1.00	0.00	
1,200.0	10.00	180.16	1,194.9	-87.0	-0.2	18.3	1.00	1.00	0.00	
1,300.0	11.00	180.16	1,293.3	-105.3	-0.3	22.1	1.00	1.00	0.00	
1,400.0	12.00	180.16	1,391.2	-125.2	-0.4	26.3	1.00	1.00	0.00	
1,420.7	12.21	180.16	1,411.5	-129.5	-0.4	27.2	1.00	1.00	0.00	
1,500.0	12.21	180.16	1,489.0	-146.3	-0.4	30.7	0.00	0.00	0.00	
1,600.0	12.21	180.16	1,586.7	-167.5	-0.5	35.2	0.00	0.00	0.00	
1,700.0	12.21	180.16	1,684.5	-188.6	-0.5	39.6	0.00	0.00	0.00	
1,800.0	12.21	180.16	1,782.2	-209.7	-0.6	44.0	0.00	0.00	0.00	
1,900.0	12.21	180.16	1,879.9	-230.9	-0.7	48.5	0.00	0.00	0.00	
2,000.0	12.21	180.16	1,977.7	-252.0	-0.7	52.9	0.00	0.00	0.00	
2,100.0	12.21	180.16	2,075.4	-273.2	-0.8	57.3	0.00	0.00	0.00	
2,200.0	12.21	180.16	2,173.2	-294.3	-0.8	61.8	0.00	0.00	0.00	
2,300.0	12.21	180.16	2,270.9	-315.5	-0.9	66.2	0.00	0.00	0.00	
2,400.0	12.21	180.16	2,368.6	-336.6	-1.0	70.7	0.00	0.00	0.00	
2,500.0	12.21	180.16	2,466.4	-357.8	-1.0	75.1	0.00	0.00	0.00	
2,600.0	12.21	180.16	2,564.1	-378.9	-1.1	79.5	0.00	0.00	0.00	
2,700.0	12.21	180.16	2,661.9	-400.0	-1.1	84.0	0.00	0.00	0.00	
2,800.0	12.21	180.16	2,759.6	-421.2	-1.2	88.4	0.00	0.00	0.00	
2,900.0	12.21	180.16	2,857.3	-442.3	-1.3	92.9	0.00	0.00	0.00	
3,000.0	12.21	180.16	2,955.1	-463.5	-1.3	97.3	0.00	0.00	0.00	
3,100.0	12.21	180.16	3,052.8	-484.6	-1.4	101.7	0.00	0.00	0.00	
3,200.0	12.21	180.16	3,150.6	-505.8	-1.4	106.2	0.00	0.00	0.00	
3,300.0	12.21	180.16	3,248.3	-526.9	-1.5	110.6	0.00	0.00	0.00	
3,400.0	12.21	180.16	3,346.0	-548.1	-1.6	115.0	0.00	0.00	0.00	
3,500.0	12.21	180.16	3,443.8	-569.2	-1.6	119.5	0.00	0.00	0.00	
3,600.0	12.21	180.16	3,541.5	-590.3	-1.7	123.9	0.00	0.00	0.00	
3,700.0	12.21	180.16	3,639.3	-611.5	-1.7	128.4	0.00	0.00	0.00	
3,800.0	12.21	180.16	3,737.0	-632.6	-1.8	132.8	0.00	0.00	0.00	
3,900.0	12.21	180.16	3,834.7	-653.8	-1.9	137.2	0.00	0.00	0.00	
4,000.0	12.21	180.16	3,932.5	-674.9	-1.9	141.7	0.00	0.00	0.00	
4,100.0	12.21	180.16	4,030.2	-696.1	-2.0	146.1	0.00	0.00	0.00	
4,200.0	12.21	180.16	4,127.9	-717.2	-2.0	150.5	0.00	0.00	0.00	
4,300.0	12.21	180.16	4,225.7	-738.3	-2.1	155.0	0.00	0.00	0.00	
4,400.0	12.21	180.16	4,323.4	-759.5	-2.2	159.4	0.00	0.00	0.00	
4,500.0	12.21	180.16	4,421.2	-780.6	-2.2	163.9	0.00	0.00	0.00	
4,600.0	12.21	180.16	4,518.9	-801.8	-2.3	168.3	0.00	0.00	0.00	
4,700.0	12.21	180.16	4,616.6	-822.9	-2.3	172.7	0.00	0.00	0.00	
4,800.0	12.21	180.16	4,714.4	-844.1	-2.4	177.2	0.00	0.00	0.00	
4,900.0	12.21	180.16	4,812.1	-865.2	-2.5	181.6	0.00	0.00	0.00	
5,000.0	12.21	180.16	4,909.9	-886.4	-2.5	186.1	0.00	0.00	0.00	

Database:	US_EDM	Local Co-ordinate Reference:	Well Rio-LA 6F-434
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 5083.0ft (RKB -13')
Project:	SEC.6-T1S-R67W	MD Reference:	WELL @ 5083.0ft (RKB -13')
Site:	Rio-LA 1S67W6E Pad Sec.6-T1S-R67W	North Reference:	True
Well:	Rio-LA 6F-434	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (8-4-15)		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
5,100.0	12.21	180.16	5,007.6	-907.5	-2.6	190.5	0.00	0.00	0.00	
5,200.0	12.21	180.16	5,105.3	-928.6	-2.6	194.9	0.00	0.00	0.00	
5,300.0	12.21	180.16	5,203.1	-949.8	-2.7	199.4	0.00	0.00	0.00	
5,400.0	12.21	180.16	5,300.8	-970.9	-2.8	203.8	0.00	0.00	0.00	
5,495.6	12.21	180.16	5,394.3	-991.1	-2.8	208.1	0.00	0.00	0.00	
Start Drop -2.00										
5,500.0	12.12	180.16	5,398.6	-992.1	-2.8	208.2	2.00	-2.00	0.00	
5,600.0	10.12	180.16	5,496.7	-1,011.4	-2.9	212.3	2.00	-2.00	0.00	
5,700.0	8.12	180.16	5,595.4	-1,027.2	-2.9	215.6	2.00	-2.00	0.00	
5,800.0	6.12	180.16	5,694.6	-1,039.6	-3.0	218.2	2.00	-2.00	0.00	
5,900.0	4.12	180.16	5,794.2	-1,048.5	-3.0	220.1	2.00	-2.00	0.00	
6,000.0	2.12	180.16	5,894.1	-1,054.0	-3.0	221.2	2.00	-2.00	0.00	
6,100.0	0.12	180.16	5,994.0	-1,055.9	-3.0	221.6	2.00	-2.00	0.00	
6,106.0	0.00	0.00	6,000.0	-1,055.9	-3.0	221.6	2.00	-2.00	0.00	
6,200.0	0.00	0.00	6,094.0	-1,055.9	-3.0	221.6	0.00	0.00	0.00	
6,300.0	0.00	0.00	6,194.0	-1,055.9	-3.0	221.6	0.00	0.00	0.00	
6,400.0	0.00	0.00	6,294.0	-1,055.9	-3.0	221.6	0.00	0.00	0.00	
6,500.0	0.00	0.00	6,394.0	-1,055.9	-3.0	221.6	0.00	0.00	0.00	
6,600.0	0.00	0.00	6,494.0	-1,055.9	-3.0	221.6	0.00	0.00	0.00	
6,700.0	0.00	0.00	6,594.0	-1,055.9	-3.0	221.6	0.00	0.00	0.00	
6,800.0	0.00	0.00	6,694.0	-1,055.9	-3.0	221.6	0.00	0.00	0.00	
6,900.0	0.00	0.00	6,794.0	-1,055.9	-3.0	221.6	0.00	0.00	0.00	
7,000.0	0.00	0.00	6,894.0	-1,055.9	-3.0	221.6	0.00	0.00	0.00	
7,100.0	0.00	0.00	6,994.0	-1,055.9	-3.0	221.6	0.00	0.00	0.00	
7,200.0	0.00	0.00	7,094.0	-1,055.9	-3.0	221.6	0.00	0.00	0.00	
7,225.1	0.00	0.00	7,119.1	-1,055.9	-3.0	221.6	0.00	0.00	0.00	
KOP #2 - Start Build 7.50										
7,300.0	5.62	270.00	7,193.9	-1,055.9	-6.7	225.2	7.50	7.50	0.00	
7,400.0	13.12	270.00	7,292.5	-1,055.9	-22.9	241.1	7.50	7.50	0.00	
7,500.0	20.62	270.00	7,388.2	-1,055.9	-51.9	269.5	7.50	7.50	0.00	
7,600.0	28.12	270.00	7,479.2	-1,055.9	-93.2	309.8	7.50	7.50	0.00	
7,700.0	35.62	270.00	7,564.0	-1,055.9	-145.9	361.5	7.50	7.50	0.00	
7,800.0	43.12	270.00	7,641.3	-1,055.9	-209.3	423.5	7.50	7.50	0.00	
7,900.0	50.62	270.00	7,709.6	-1,055.9	-282.2	494.8	7.50	7.50	0.00	
8,000.0	58.12	270.00	7,767.8	-1,055.9	-363.4	574.3	7.50	7.50	0.00	
8,100.0	65.62	270.00	7,815.0	-1,055.9	-451.6	660.5	7.50	7.50	0.00	
8,200.0	73.12	270.00	7,850.2	-1,055.9	-545.1	752.0	7.50	7.50	0.00	
8,300.0	80.62	270.00	7,872.9	-1,055.9	-642.4	847.2	7.50	7.50	0.00	
8,400.0	88.12	270.00	7,882.7	-1,055.9	-741.8	944.5	7.50	7.50	0.00	
8,421.5	89.73	270.00	7,883.1	-1,055.9	-763.3	965.5	7.50	7.50	0.00	
Start 4223.9 hold at 8421.5 MD - 7"										
8,500.0	89.73	270.00	7,883.5	-1,055.9	-841.8	1,042.3	0.00	0.00	0.00	
8,600.0	89.73	270.00	7,883.9	-1,055.9	-941.8	1,140.1	0.00	0.00	0.00	
8,700.0	89.73	270.00	7,884.4	-1,055.9	-1,041.8	1,237.9	0.00	0.00	0.00	
8,800.0	89.73	270.00	7,884.9	-1,055.9	-1,141.8	1,335.8	0.00	0.00	0.00	
8,900.0	89.73	270.00	7,885.3	-1,055.9	-1,241.8	1,433.6	0.00	0.00	0.00	
9,000.0	89.73	270.00	7,885.8	-1,055.9	-1,341.8	1,531.4	0.00	0.00	0.00	
9,100.0	89.73	270.00	7,886.3	-1,055.9	-1,441.8	1,629.3	0.00	0.00	0.00	
9,200.0	89.73	270.00	7,886.8	-1,055.9	-1,541.8	1,727.1	0.00	0.00	0.00	
9,300.0	89.73	270.00	7,887.2	-1,055.9	-1,641.8	1,824.9	0.00	0.00	0.00	
9,400.0	89.73	270.00	7,887.7	-1,055.9	-1,741.8	1,922.8	0.00	0.00	0.00	
9,500.0	89.73	270.00	7,888.2	-1,055.9	-1,841.8	2,020.6	0.00	0.00	0.00	
9,600.0	89.73	270.00	7,888.6	-1,055.9	-1,941.8	2,118.4	0.00	0.00	0.00	

<b>Database:</b>	US_EDM	<b>Local Co-ordinate Reference:</b>	Well Rio-LA 6F-434
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Project:</b>	SEC.6-T1S-R67W	<b>MD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Site:</b>	Rio-LA 1S67W6E Pad Sec.6-T1S-R67W	<b>North Reference:</b>	True
<b>Well:</b>	Rio-LA 6F-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (8-4-15)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,700.0	89.73	270.00	7,889.1	-1,055.9	-2,041.8	2,216.3	0.00	0.00	0.00
9,800.0	89.73	270.00	7,889.6	-1,055.9	-2,141.8	2,314.1	0.00	0.00	0.00
9,900.0	89.73	270.00	7,890.1	-1,055.9	-2,241.8	2,411.9	0.00	0.00	0.00
10,000.0	89.73	270.00	7,890.5	-1,055.9	-2,341.8	2,509.7	0.00	0.00	0.00
10,100.0	89.73	270.00	7,891.0	-1,055.9	-2,441.8	2,607.6	0.00	0.00	0.00
10,200.0	89.73	270.00	7,891.5	-1,055.9	-2,541.8	2,705.4	0.00	0.00	0.00
10,300.0	89.73	270.00	7,891.9	-1,055.9	-2,641.8	2,803.2	0.00	0.00	0.00
10,400.0	89.73	270.00	7,892.4	-1,055.9	-2,741.8	2,901.1	0.00	0.00	0.00
10,500.0	89.73	270.00	7,892.9	-1,055.9	-2,841.8	2,998.9	0.00	0.00	0.00
10,600.0	89.73	270.00	7,893.4	-1,055.9	-2,941.8	3,096.7	0.00	0.00	0.00
10,700.0	89.73	270.00	7,893.8	-1,055.9	-3,041.8	3,194.6	0.00	0.00	0.00
10,800.0	89.73	270.00	7,894.3	-1,055.9	-3,141.8	3,292.4	0.00	0.00	0.00
10,900.0	89.73	270.00	7,894.8	-1,055.9	-3,241.8	3,390.2	0.00	0.00	0.00
11,000.0	89.73	270.00	7,895.2	-1,055.9	-3,341.8	3,488.0	0.00	0.00	0.00
11,100.0	89.73	270.00	7,895.7	-1,055.9	-3,441.8	3,585.9	0.00	0.00	0.00
11,200.0	89.73	270.00	7,896.2	-1,055.9	-3,541.8	3,683.7	0.00	0.00	0.00
11,300.0	89.73	270.00	7,896.7	-1,055.9	-3,641.8	3,781.5	0.00	0.00	0.00
11,400.0	89.73	270.00	7,897.1	-1,055.9	-3,741.8	3,879.4	0.00	0.00	0.00
11,500.0	89.73	270.00	7,897.6	-1,055.9	-3,841.8	3,977.2	0.00	0.00	0.00
11,600.0	89.73	270.00	7,898.1	-1,055.9	-3,941.8	4,075.0	0.00	0.00	0.00
11,700.0	89.73	270.00	7,898.5	-1,055.9	-4,041.8	4,172.9	0.00	0.00	0.00
11,800.0	89.73	270.00	7,899.0	-1,055.9	-4,141.8	4,270.7	0.00	0.00	0.00
11,900.0	89.73	270.00	7,899.5	-1,055.9	-4,241.8	4,368.5	0.00	0.00	0.00
12,000.0	89.73	270.00	7,900.0	-1,055.9	-4,341.8	4,466.3	0.00	0.00	0.00
12,100.0	89.73	270.00	7,900.4	-1,055.9	-4,441.8	4,564.2	0.00	0.00	0.00
12,200.0	89.73	270.00	7,900.9	-1,055.9	-4,541.8	4,662.0	0.00	0.00	0.00
12,300.0	89.73	270.00	7,901.4	-1,055.9	-4,641.8	4,759.8	0.00	0.00	0.00
12,400.0	89.73	270.00	7,901.8	-1,055.9	-4,741.8	4,857.7	0.00	0.00	0.00
12,500.0	89.73	270.00	7,902.3	-1,055.9	-4,841.8	4,955.5	0.00	0.00	0.00
12,600.0	89.73	270.00	7,902.8	-1,055.9	-4,941.8	5,053.3	0.00	0.00	0.00
12,645.5	89.73	270.00	7,903.0	-1,055.9	-4,987.2	5,097.8	0.00	0.00	0.00
TD at 12645.5									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
50°N/S Hardline (6F-434)	0.00	0.00	1.0	-1,055.9	-2,875.2	1,241,663.91	3,154,084.80	39.995441	-104.950032
- hit/miss target									
- Shape									
- plan misses target center by 3063.0ft at 1.0ft MD (1.0 TVD, 0.0 N, 0.0 E)									
- Rectangle (sides W100.0 H4,223.9 D0.0)									
SHL 729°FNL & 158°FWI	0.00	0.00	1.0	0.0	0.0	1,242,737.94	3,156,953.22	39.998340	-104.939770
- plan hits target center									
- Point									
BHL 1783°FNL & 500°FW	0.00	0.00	7,903.0	-1,055.9	-4,987.2	1,241,650.56	3,151,972.93	39.995440	-104.957570
- plan hits target center									
- Point									

<b>Database:</b>	US_EDM	<b>Local Co-ordinate Reference:</b>	Well Rio-LA 6F-434
<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>TVD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Project:</b>	SEC.6-T1S-R67W	<b>MD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Site:</b>	Rio-LA 1S67W6E Pad Sec.6-T1S-R67W	<b>North Reference:</b>	True
<b>Well:</b>	Rio-LA 6F-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (8-4-15)		

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
8,421.5	7,883.1	7"	7	8-3/4

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,509.0	4,430.0	Parkman		0.00	
4,887.6	4,800.0	Sussex		0.00	
5,481.0	5,380.0	Shannon		0.00	
7,463.8	7,354.0	Sharon Springs		0.00	
7,559.5	7,443.0	Niobrara A		0.00	
7,749.1	7,603.0	Niobrara B		0.00	
7,928.0	7,727.0	Niobrara C		0.00	
8,240.9	7,861.0	Fort Hays		0.00	
8,412.5	7,883.0	Codell		0.00	

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
200.0	200.0	0.0	0.0	KOP - Start Build 1.00
5,495.6	5,394.3	-129.5	-0.4	Start Drop -2.00
7,225.1	7,119.2	-991.2	-2.8	KOP #2 - Start Build 7.50
8,421.5	7,883.1	-1,055.9	-3.0	Start 4223.9 hold at 8421.5 MD
12,645.5	7,903.0	-1,055.9	-3.0	TD at 12645.5



## Directional

# PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.6-T1S-R67W

Rio-LA 1S67W6E Pad Sec.6-T1S-R67W

Rio-LA 6F-434

Wellbore #1

Plan #1 (8-4-15)

## Anticollision Report

11 August, 2015





<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Rio-LA 6F-434
<b>Project:</b>	SEC.6-T1S-R67W	<b>TVD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Reference Site:</b>	Rio-LA 1S67W6E Pad Sec.6-T1S-R67W	<b>MD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Rio-LA 6F-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (8-4-15)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Plan #1 (8-4-15)		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	Stations	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 1,000.0 ft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma	<b>Casing Method:</b>	Not applied

<b>Survey Tool Program</b>	<b>Date</b>	8/11/2015		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	12,645.5	Plan #1 (8-4-15) (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
<b>Offset Well - Wellbore - Design</b>						
Corcilus 1S67W6J Pad Sec.6-T1S-R67W						
Corcilus 6E-203 - Wellbore #1 - Plan #1 (4-29-15)	7,726.0	9,141.0	101.0	53.9	2.145	CC, ES, SF
Corcilus 6E-323 - Wellbore #1 - Plan #1 (4-29-15)	7,650.0	9,228.7	330.8	281.9	6.758	SF
Corcilus 6E-323 - Wellbore #1 - Plan #1 (4-29-15)	7,692.5	9,228.5	326.9	279.2	6.850	CC, ES
Existing Pad Sec.12-T1S-R68W						
Beisel 42-1 (Exist.) - Wellbore #1 - Wellbore #1	8,875.5	7,872.4	312.9	260.8	6.013	CC, ES
Beisel 42-1 (Exist.) - Wellbore #1 - Wellbore #1	8,900.0	7,872.3	313.8	261.2	5.964	SF
Beisel Unit 1 (Exist.) - Wellbore #1 - Wellbore #1	9,539.6	7,879.4	516.5	305.7	2.450	CC, ES
Beisel Unit 1 (Exist.) - Wellbore #1 - Wellbore #1	9,600.0	7,879.6	520.0	307.6	2.449	SF
Gaspar 11-1 (Exist.) - Wellbore #1 - Wellbore #1						Out of range
Sterkel 1 (Exist.) - Wellbore #1 - Wellbore #1						Out of range
Sterkel 21-1 - Wellbore #1 - Wellbore #1	11,236.8	7,923.8	946.9	827.6	7.935	CC, ES
Sterkel 21-1 - Wellbore #1 - Wellbore #1	11,400.0	7,930.7	960.9	837.0	7.758	SF
Existing Wells Sec.6-T1S-R67W						
Sack 11-6 (Exist.) - Wellbore #1 - Wellbore #1	304.3	290.5	301.2	300.1	256.071	CC
Sack 11-6 (Exist.) - Wellbore #1 - Wellbore #1	400.0	386.0	301.6	300.0	186.662	ES
Sack 11-6 (Exist.) - Wellbore #1 - Wellbore #1	3,500.0	3,430.7	715.1	697.4	40.415	SF
Sack 12-6 (Exist.) - Wellbore #1 - Wellbore #1	7,239.3	7,117.6	306.0	267.3	7.914	CC, ES
Sack 12-6 (Exist.) - Wellbore #1 - Wellbore #1	7,250.0	7,128.1	306.1	267.4	7.910	SF
Rio-LA 1S67W6E Pad Sec.6-T1S-R67W						
Rio-LA 6E-234 - Wellbore #1 - Plan #1 (8-4-15)	200.0	200.0	76.7	76.0	113.768	CC, ES
Rio-LA 6E-234 - Wellbore #1 - Plan #1 (8-4-15)	1,000.0	997.4	132.4	128.1	31.186	SF
Rio-LA 6E-304 - Wellbore #1 - Plan #1 (8-4-15)	200.0	200.0	91.5	90.8	135.648	CC, ES
Rio-LA 6E-304 - Wellbore #1 - Plan #1 (8-4-15)	1,100.0	1,093.7	162.6	157.9	34.598	SF
Rio-LA 6F-204 - Wellbore #1 - Plan #1 (8-4-15)	200.0	200.0	29.3	28.6	43.438	CC, ES
Rio-LA 6F-204 - Wellbore #1 - Plan #1 (8-4-15)	12,645.5	12,450.4	641.5	388.2	2.532	SF
Rio-LA 6F-314 - Wellbore #1 - Plan #1 (8-4-15)	200.0	200.0	43.8	43.1	64.975	CC, ES
Rio-LA 6F-314 - Wellbore #1 - Plan #1 (8-4-15)	12,645.5	12,533.5	864.3	591.4	3.167	SF
Rio-LA 6F-334 - Wellbore #1 - Plan #1 (8-4-15)	200.0	200.0	14.6	13.9	21.616	CC, ES
Rio-LA 6F-334 - Wellbore #1 - Plan #1 (8-4-15)	12,645.5	12,598.5	278.5	51.6	1.227	Level 2, SF
Rio-LA 6F-414 - Wellbore #1 - Plan #1 (8-4-15)	200.0	200.0	62.2	61.5	92.229	CC, ES
Rio-LA 6F-414 - Wellbore #1 - Plan #1 (8-4-15)	900.0	898.3	104.8	101.0	27.662	SF

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Rio-LA 6F-434
<b>Project:</b>	SEC.6-T1S-R67W	<b>TVD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Reference Site:</b>	Rio-LA 1S67W6E Pad Sec.6-T1S-R67W	<b>MD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Rio-LA 6F-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (8-4-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Corcilius 1S67W6J Pad Sec.6-T1S-R67W - Corcilius 6E-203 - Wellbore #1 - Plan #1 (4-29-15)												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.0	0.0	0.0	0.0	0.0	0.0	97.51	-80.1	608.0	613.3				
100.0	100.0	91.0	91.0	0.1	0.1	97.51	-80.1	608.0	613.2	613.0	0.21	2,856.619	
200.0	200.0	191.0	191.0	0.3	0.3	97.51	-80.1	608.0	613.2	612.6	0.65	937.560	
300.0	300.0	303.7	303.6	0.5	0.6	-82.84	-79.1	607.0	612.2	611.1	1.11	553.686	
400.0	400.0	417.2	417.1	0.7	0.8	-83.45	-75.6	603.8	608.7	607.1	1.56	389.375	
500.0	499.9	530.1	529.7	1.0	1.1	-84.47	-69.6	598.4	602.8	600.8	2.05	294.283	
600.0	599.7	641.9	640.9	1.2	1.4	-85.94	-61.2	590.8	594.9	592.3	2.56	232.228	
700.0	699.4	752.3	750.4	1.4	1.7	-87.85	-50.6	581.2	585.0	581.9	3.11	188.168	
800.0	798.9	861.0	857.7	1.7	2.1	-90.22	-37.9	569.6	573.8	570.1	3.70	155.106	
900.0	898.3	959.2	954.4	2.0	2.5	-92.77	-25.1	558.0	562.1	557.8	4.31	130.563	
1,000.0	997.4	1,055.1	1,048.7	2.3	2.8	-95.51	-12.5	546.6	551.7	546.8	4.94	111.634	
1,100.0	1,096.3	1,150.5	1,142.6	2.6	3.2	-98.48	0.0	535.2	542.9	537.2	5.62	96.652	
1,200.0	1,194.9	1,245.4	1,236.0	3.0	3.5	-101.66	12.4	523.9	535.9	529.5	6.33	84.716	
1,300.0	1,293.3	1,339.8	1,328.9	3.4	3.9	-105.03	24.8	512.7	531.1	524.0	7.06	75.193	
1,400.0	1,391.2	1,433.6	1,421.3	3.8	4.3	-108.55	37.1	501.5	528.9	521.1	7.82	67.598	
1,420.7	1,411.5	1,453.0	1,440.4	3.9	4.4	-109.29	39.6	499.2	528.8	520.8	7.98	66.235	
1,428.2	1,418.8	1,460.0	1,447.2	3.9	4.4	-109.56	40.5	498.4	528.8	520.8	8.04	65.755	
1,500.0	1,489.0	1,527.1	1,513.3	4.2	4.6	-112.15	49.3	490.4	529.4	520.8	8.60	61.589	
1,600.0	1,586.7	1,620.5	1,605.2	4.7	5.0	-115.74	61.5	479.3	532.3	523.0	9.36	56.879	
1,700.0	1,684.5	1,713.9	1,697.2	5.1	5.4	-119.27	73.8	468.2	537.6	527.5	10.11	53.195	
1,800.0	1,782.2	1,807.4	1,789.2	5.6	5.7	-122.74	86.0	457.1	545.2	534.3	10.83	50.325	
1,900.0	1,879.9	1,900.8	1,881.1	6.0	6.1	-126.11	98.2	446.0	554.9	543.4	11.53	48.106	
2,000.0	1,977.7	1,994.3	1,973.1	6.5	6.5	-129.36	110.5	434.8	566.7	554.5	12.21	46.410	
2,100.0	2,075.4	2,087.7	2,065.1	6.9	6.9	-132.49	122.7	423.7	580.5	567.6	12.86	45.136	
2,200.0	2,173.2	2,181.1	2,157.0	7.4	7.2	-135.48	135.0	412.6	596.1	582.6	13.48	44.203	
2,300.0	2,270.9	2,274.6	2,249.0	7.8	7.6	-138.33	147.2	401.5	613.3	599.2	14.08	43.546	
2,400.0	2,368.6	2,368.0	2,340.9	8.3	8.0	-141.02	159.4	390.4	632.1	617.4	14.66	43.113	
2,500.0	2,466.4	2,461.4	2,432.9	8.7	8.3	-143.58	171.7	379.3	652.3	637.1	15.22	42.861	
2,600.0	2,564.1	2,554.9	2,524.9	9.2	8.7	-145.98	183.9	368.2	673.8	658.0	15.76	42.754	
2,700.0	2,661.9	2,648.3	2,616.8	9.7	9.1	-148.25	196.1	357.1	696.4	680.2	16.29	42.763	
2,800.0	2,759.6	2,741.7	2,708.8	10.1	9.5	-150.38	208.4	345.9	720.1	703.3	16.80	42.866	
2,900.0	2,857.3	2,835.2	2,800.7	10.6	9.8	-152.38	220.6	334.8	744.8	727.5	17.30	43.041	
3,000.0	2,955.1	2,928.6	2,892.7	11.0	10.2	-154.27	232.9	323.7	770.3	752.5	17.80	43.273	
3,100.0	3,052.8	3,022.0	2,984.7	11.5	10.6	-156.03	245.1	312.6	796.6	778.3	18.29	43.550	
3,200.0	3,150.6	3,115.5	3,076.6	11.9	11.0	-157.69	257.3	301.5	823.6	804.8	18.78	43.859	
3,300.0	3,248.3	3,208.9	3,168.6	12.4	11.3	-159.25	269.6	290.4	851.2	831.9	19.26	44.193	
3,400.0	3,346.0	3,302.3	3,260.6	12.9	11.7	-160.71	281.8	279.3	879.4	859.7	19.74	44.544	
3,500.0	3,443.8	3,395.8	3,352.5	13.3	12.1	-162.09	294.0	268.1	908.1	887.9	20.22	44.906	
3,600.0	3,541.5	3,489.2	3,444.5	13.8	12.5	-163.39	306.3	257.0	937.3	916.6	20.70	45.275	
3,700.0	3,639.3	3,582.7	3,536.4	14.2	12.8	-164.61	318.5	245.9	967.0	945.8	21.18	45.646	
3,800.0	3,737.0	3,676.1	3,628.4	14.7	13.2	-165.76	330.7	234.8	997.0	975.3	21.67	46.018	
6,800.0	6,694.0	9,148.2	7,637.5	24.5	30.2	-95.58	-1,063.6	-81.3	955.7	917.6	38.09	25.093	
6,900.0	6,794.0	9,147.4	7,637.5	24.6	30.2	-94.99	-1,062.8	-81.3	856.1	817.9	38.14	22.448	
7,000.0	6,894.0	9,146.6	7,637.5	24.7	30.2	-94.41	-1,062.0	-81.3	756.5	718.4	38.19	19.810	
7,100.0	6,994.0	9,145.8	7,637.5	24.8	30.2	-93.83	-1,061.2	-81.3	657.2	618.9	38.25	17.180	
7,200.0	7,094.0	9,145.0	7,637.5	24.9	30.2	-93.24	-1,060.4	-81.3	558.0	519.7	38.32	14.563	
7,225.1	7,119.2	9,144.8	7,637.5	25.0	30.2	-93.10	-1,060.2	-81.3	533.2	494.8	38.33	13.908	
7,250.0	7,144.0	9,144.6	7,637.5	25.0	30.2	-3.75	-1,060.0	-81.3	508.5	454.6	53.88	9.438	
7,300.0	7,193.9	9,144.2	7,637.5	25.1	30.2	-6.91	-1,059.6	-81.3	458.7	405.3	53.47	8.580	
7,350.0	7,243.5	9,143.8	7,637.5	25.1	30.2	-63.11	-1,059.2	-81.3	408.8	370.0	38.78	10.541	
7,400.0	7,292.5	9,143.4	7,637.5	25.2	30.2	-173.09	-1,058.8	-81.3	358.8	304.5	54.33	6.605	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Rio-LA 6F-434
<b>Project:</b>	SEC.6-T1S-R67W	<b>TVD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Reference Site:</b>	Rio-LA 1S67W6E Pad Sec.6-T1S-R67W	<b>MD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Rio-LA 6F-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (8-4-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Corcilus 1S67W6J Pad Sec.6-T1S-R67W - Corcilus 6E-203 - Wellbore #1 - Plan #1 (4-29-15)													Offset Well Error:	0.0 ft
Survey Program: 0-MWD														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
7,450.0	7,340.8	9,143.0	7,637.5	25.3	30.2	-176.89	-1,058.4	-81.3	309.1	255.5	53.58	5.769		
7,500.0	7,388.2	9,142.6	7,637.5	25.3	30.1	-178.13	-1,058.0	-81.3	260.1	207.3	52.75	4.930		
7,550.0	7,434.3	9,142.2	7,637.5	25.4	30.1	-178.75	-1,057.6	-81.3	212.5	160.7	51.79	4.102		
7,600.0	7,479.2	9,141.9	7,637.5	25.5	30.1	-179.14	-1,057.3	-81.3	167.8	117.1	50.66	3.312		
7,650.0	7,522.5	9,141.5	7,637.5	25.6	30.1	-179.41	-1,056.9	-81.3	129.4	80.0	49.37	2.621		
7,700.0	7,564.0	9,141.2	7,637.5	25.6	30.1	-179.62	-1,056.6	-81.3	104.8	56.8	47.93	2.186		
7,726.0	7,584.9	9,141.0	7,637.5	25.7	30.1	-179.72	-1,056.4	-81.3	101.0	53.9	47.12	2.145	CC, ES, SF	
7,750.0	7,603.7	9,140.9	7,637.6	25.7	30.1	-179.81	-1,056.3	-81.3	104.2	57.9	46.34	2.249		
7,800.0	7,641.3	9,140.6	7,637.6	25.8	30.1	-179.98	-1,056.0	-81.3	128.1	83.5	44.61	2.871		
7,850.0	7,676.7	9,140.3	7,637.6	26.0	30.1	179.84	-1,055.7	-81.3	166.1	123.3	42.75	3.884		
7,900.0	7,709.6	9,140.0	7,637.6	26.1	30.1	179.63	-1,055.4	-81.3	210.6	169.8	40.79	5.162		
7,950.0	7,740.1	9,139.8	7,637.6	26.3	30.1	179.32	-1,055.2	-81.3	258.1	219.3	38.73	6.663		
8,000.0	7,767.8	9,139.5	7,637.6	26.5	30.1	178.78	-1,054.9	-81.3	307.1	270.5	36.59	8.393		
8,050.0	7,792.8	9,139.3	7,637.6	26.7	30.1	177.23	-1,054.7	-81.3	356.8	322.4	34.32	10.395		
8,100.0	7,815.0	9,139.2	7,637.6	26.9	30.1	68.66	-1,054.6	-81.3	406.7	364.0	42.71	9.523		
8,150.0	7,834.1	9,139.0	7,637.6	27.3	30.1	3.02	-1,054.4	-81.3	456.7	426.0	30.71	14.870		
8,200.0	7,850.2	9,138.9	7,637.6	27.6	30.1	1.57	-1,054.3	-81.3	506.5	477.9	28.55	17.743		
8,250.0	7,863.1	9,138.8	7,637.6	28.0	30.1	1.06	-1,054.2	-81.3	555.9	529.3	26.65	20.857		
8,300.0	7,872.9	9,138.7	7,637.6	28.5	30.1	0.80	-1,054.1	-81.3	605.0	579.9	25.04	24.164		
8,350.0	7,879.4	9,138.6	7,637.6	29.1	30.1	0.63	-1,054.0	-81.3	653.5	629.7	23.77	27.488		
8,400.0	7,882.7	9,138.6	7,637.6	29.8	30.1	0.51	-1,054.0	-81.3	701.4	678.5	22.96	30.551		
8,421.5	7,883.1	9,138.6	7,637.6	30.1	30.1	0.47	-1,054.0	-81.3	721.9	699.1	22.77	31.709		
8,500.0	7,883.5	9,138.6	7,637.6	31.2	30.1	0.47	-1,054.0	-81.3	796.5	773.3	23.24	34.272		
8,600.0	7,883.9	9,138.6	7,637.6	33.0	30.1	0.47	-1,054.0	-81.3	892.6	868.8	23.87	37.400		
8,700.0	7,884.4	9,138.6	7,637.6	34.9	30.1	0.48	-1,054.0	-81.3	989.5	965.0	24.51	40.372		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Rio-LA 6F-434
<b>Project:</b>	SEC.6-T1S-R67W	<b>TVD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Reference Site:</b>	Rio-LA 1S67W6E Pad Sec.6-T1S-R67W	<b>MD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Rio-LA 6F-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (8-4-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Corcilus 1S67W6J Pad Sec.6-T1S-R67W - Corcilus 6E-323 - Wellbore #1 - Plan #1 (4-29-15)												Offset Well Error:	0.0 ft
Survey Program: 0-MWD													
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	97.15	-80.1	638.8	643.9				
100.0	100.0	91.0	91.0	0.1	0.1	97.15	-80.1	638.8	643.8	643.6	0.21	2,999.010	
200.0	200.0	191.0	191.0	0.3	0.3	97.15	-80.1	638.8	643.8	643.1	0.65	984.294	
300.0	300.0	291.0	291.0	0.5	0.5	-83.09	-80.1	638.8	643.7	642.6	1.08	596.397	
400.0	400.0	391.0	391.0	0.7	0.8	-83.33	-80.1	638.8	643.4	641.9	1.50	428.027	
500.0	499.9	502.0	502.0	1.0	1.0	-83.86	-79.0	638.0	642.1	640.1	1.97	326.072	
600.0	599.7	613.6	613.4	1.2	1.3	-84.81	-75.2	635.4	638.8	636.4	2.45	260.276	
700.0	699.4	724.1	723.8	1.4	1.5	-86.19	-68.7	631.1	633.8	630.8	2.96	213.945	
800.0	798.9	833.4	832.5	1.7	1.8	-87.98	-59.8	625.0	627.2	623.7	3.50	179.231	
900.0	898.3	941.1	939.3	2.0	2.1	-90.20	-48.4	617.4	619.5	615.4	4.07	152.058	
1,000.0	997.4	1,046.8	1,043.7	2.3	2.4	-92.83	-34.9	608.2	611.2	606.5	4.69	130.184	
1,100.0	1,096.3	1,145.8	1,141.2	2.6	2.8	-95.70	-20.3	598.3	603.0	597.7	5.35	112.740	
1,200.0	1,194.9	1,240.4	1,234.2	3.0	3.1	-98.66	-6.2	588.8	596.5	590.5	6.03	98.911	
1,300.0	1,293.3	1,334.4	1,326.6	3.4	3.5	-101.77	7.8	579.3	592.0	585.3	6.75	87.751	
1,400.0	1,391.2	1,427.8	1,418.5	3.8	3.8	-105.02	21.8	569.8	590.0	582.5	7.49	78.757	
1,420.7	1,411.5	1,447.0	1,437.4	3.9	3.9	-105.71	24.7	567.9	589.8	582.2	7.65	77.128	
1,429.7	1,420.3	1,455.4	1,445.7	3.9	3.9	-106.01	25.9	567.0	589.8	582.1	7.72	76.442	
1,500.0	1,489.0	1,520.8	1,510.0	4.2	4.2	-108.34	35.7	560.4	590.4	582.2	8.25	71.563	
1,600.0	1,586.7	1,613.8	1,601.4	4.7	4.5	-111.65	49.6	551.0	593.2	584.2	9.01	65.855	
1,700.0	1,684.5	1,706.7	1,692.9	5.1	4.9	-114.92	63.5	541.7	598.2	588.4	9.75	61.328	
1,800.0	1,782.2	1,799.7	1,784.4	5.6	5.3	-118.13	77.3	532.3	605.4	594.9	10.48	57.737	
1,900.0	1,879.9	1,892.7	1,875.8	6.0	5.6	-121.27	91.2	522.9	614.7	603.5	11.20	54.898	
2,000.0	1,977.7	1,985.7	1,967.3	6.5	6.0	-124.31	105.1	513.5	626.1	614.2	11.89	52.665	
2,100.0	2,075.4	2,078.7	2,058.7	6.9	6.4	-127.25	119.0	504.1	639.3	626.8	12.55	50.923	
2,200.0	2,173.2	2,171.7	2,150.2	7.4	6.7	-130.08	132.9	494.7	654.4	641.2	13.20	49.581	
2,300.0	2,270.9	2,264.7	2,241.7	7.8	7.1	-132.79	146.8	485.3	671.2	657.3	13.82	48.567	
2,400.0	2,368.6	2,357.6	2,333.1	8.3	7.5	-135.38	160.7	475.9	689.5	675.0	14.42	47.820	
2,500.0	2,466.4	2,450.6	2,424.6	8.7	7.8	-137.84	174.5	466.5	709.2	694.2	15.00	47.293	
2,600.0	2,564.1	2,543.6	2,516.0	9.2	8.2	-140.18	188.4	457.1	730.3	714.7	15.56	46.946	
2,700.0	2,661.9	2,636.6	2,607.5	9.7	8.6	-142.39	202.3	447.7	752.6	736.5	16.10	46.745	
2,800.0	2,759.6	2,729.6	2,699.0	10.1	9.0	-144.49	216.2	438.3	776.0	759.3	16.63	46.665	
2,900.0	2,857.3	2,822.6	2,790.4	10.6	9.3	-146.47	230.1	428.9	800.3	783.2	17.14	46.683	
3,000.0	2,955.1	2,915.6	2,881.9	11.0	9.7	-148.33	244.0	419.5	825.7	808.0	17.65	46.779	
3,100.0	3,052.8	3,008.5	2,973.4	11.5	10.1	-150.10	257.9	410.1	851.8	833.7	18.15	46.939	
3,200.0	3,150.6	3,101.5	3,064.8	11.9	10.5	-151.77	271.8	400.7	878.7	860.1	18.64	47.150	
3,300.0	3,248.3	3,194.5	3,156.3	12.4	10.8	-153.34	285.6	391.3	906.3	887.2	19.12	47.400	
3,400.0	3,346.0	3,287.5	3,247.7	12.9	11.2	-154.82	299.5	381.9	934.6	915.0	19.60	47.682	
3,500.0	3,443.8	3,380.5	3,339.2	13.3	11.6	-156.22	313.4	372.5	963.4	943.3	20.08	47.987	
3,600.0	3,541.5	3,473.5	3,430.7	13.8	12.0	-157.54	327.3	363.1	992.7	972.2	20.55	48.309	
6,900.0	6,794.0	9,232.5	7,736.7	24.6	29.7	92.21	-1,060.9	126.0	960.4	925.0	35.35	27.164	
7,000.0	6,894.0	9,232.0	7,736.7	24.7	29.7	91.98	-1,060.4	126.0	961.4	925.8	35.54	24.238	
7,100.0	6,994.0	9,231.5	7,736.7	24.8	29.7	91.75	-1,059.9	126.0	962.6	926.9	35.72	21.348	
7,200.0	7,094.0	9,230.9	7,736.7	24.9	29.7	91.51	-1,059.3	126.0	964.3	928.4	35.91	18.498	
7,225.1	7,119.2	9,230.8	7,736.7	25.0	29.7	91.46	-1,059.2	126.0	939.7	903.7	35.96	17.789	
7,250.0	7,144.0	9,230.7	7,736.7	25.0	29.7	-178.79	-1,059.1	126.0	915.4	861.1	54.32	11.330	
7,300.0	7,193.9	9,230.4	7,736.7	25.1	29.7	-179.11	-1,058.8	126.0	867.5	813.2	54.30	10.451	
7,350.0	7,243.5	9,230.2	7,736.7	25.1	29.6	-179.31	-1,058.5	126.0	821.1	767.1	54.09	9.635	
7,400.0	7,292.5	9,229.9	7,736.7	25.2	29.6	-179.45	-1,058.3	126.0	777.0	723.3	53.69	8.885	
7,450.0	7,340.8	9,229.7	7,736.7	25.3	29.6	-179.56	-1,058.0	126.0	733.1	683.0	53.10	8.212	
7,500.0	7,388.2	9,229.4	7,736.7	25.3	29.6	-179.63	-1,057.8	126.0	689.4	637.1	52.33	7.632	
7,550.0	7,434.3	9,229.2	7,736.7	25.4	29.6	-179.70	-1,057.5	126.0	645.5	591.1	51.37	7.173	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Rio-LA 6F-434
<b>Project:</b>	SEC.6-T1S-R67W	<b>TVD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Reference Site:</b>	Rio-LA 1S67W6E Pad Sec.6-T1S-R67W	<b>MD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Rio-LA 6F-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (8-4-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Corcilus 1S67W6J Pad Sec.6-T1S-R67W - Corcilus 6E-323 - Wellbore #1 - Plan #1 (4-29-15)		Offset Site Error:		0.0 ft
Survey Program: 0-MWD													Offset Well Error:		0.0 ft		
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor						
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)						
7,600.0	7,479.2	9,228.9	7,736.7	25.5	29.6	-179.75	-1,057.3	126.0	345.1	294.8	50.25	6.868					
7,650.0	7,522.5	9,228.7	7,736.7	25.6	29.6	-179.80	-1,057.1	126.0	330.8	281.9	48.95	6.758 SF					
7,692.5	7,557.9	9,228.5	7,736.7	25.6	29.6	-179.83	-1,056.9	126.0	326.9	279.2	47.73	6.850 CC, ES					
7,700.0	7,564.0	9,228.5	7,736.7	25.6	29.6	-179.83	-1,056.9	126.0	327.0	279.5	47.50	6.885					
7,750.0	7,603.7	9,228.3	7,736.7	25.7	29.6	-179.87	-1,056.7	126.0	334.0	288.1	45.90	7.278					
7,800.0	7,641.3	9,228.1	7,736.7	25.8	29.6	-179.90	-1,056.5	126.0	351.2	307.0	44.17	7.951					
7,850.0	7,676.7	9,227.9	7,736.7	26.0	29.6	-179.93	-1,056.3	126.0	377.0	334.7	42.32	8.909					
7,900.0	7,709.6	9,227.7	7,736.7	26.1	29.6	-179.96	-1,056.1	126.0	409.8	369.5	40.37	10.152					
7,950.0	7,740.1	9,227.6	7,736.7	26.3	29.6	-180.00	-1,055.9	126.0	447.9	409.6	38.34	11.682					
8,000.0	7,767.8	9,227.4	7,736.7	26.5	29.6	179.97	-1,055.8	126.0	490.0	453.7	36.26	13.512					
8,050.0	7,792.8	9,227.3	7,736.7	26.7	29.6	179.93	-1,055.7	126.0	534.8	500.7	34.15	15.661					
8,100.0	7,815.0	9,227.2	7,736.7	26.9	29.6	179.88	-1,055.5	126.0	581.7	549.7	32.05	18.150					
8,150.0	7,834.1	9,227.1	7,736.7	27.3	29.6	179.80	-1,055.4	126.0	630.0	600.0	30.00	20.999					
8,200.0	7,850.2	9,227.0	7,736.7	27.6	29.6	179.66	-1,055.4	126.0	679.2	651.1	28.06	24.206					
8,250.0	7,863.1	9,226.9	7,736.7	28.0	29.6	179.26	-1,055.3	126.0	728.9	702.6	26.29	27.723					
8,300.0	7,872.9	9,226.9	7,736.7	28.5	29.6	75.03	-1,055.2	126.0	778.9	735.9	42.94	18.137					
8,350.0	7,879.4	9,226.8	7,736.7	29.1	29.6	0.78	-1,055.2	126.0	828.8	805.2	23.61	35.099					
8,400.0	7,882.7	9,226.8	7,736.7	29.8	29.6	0.39	-1,055.2	126.0	878.6	855.7	22.90	38.364					
8,421.5	7,883.1	9,226.8	7,736.7	30.1	29.6	0.32	-1,055.2	126.0	899.9	877.2	22.75	39.552					
8,500.0	7,883.5	9,226.8	7,736.7	31.2	29.6	0.32	-1,055.2	126.0	977.6	954.4	23.23	42.086					

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Rio-LA 6F-434
<b>Project:</b>	SEC.6-T1S-R67W	<b>TVD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Reference Site:</b>	Rio-LA 1S67W6E Pad Sec.6-T1S-R67W	<b>MD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Rio-LA 6F-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (8-4-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 100-Reference													Offset Well Error:	0.0 ft
Existing Pad Sec.12-T1S-R68W - Beisel 42-1 (Exist.) - Wellbore #1 - Wellbore #1														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
7,900.0	7,709.6	7,713.3	7,712.0	26.1	15.7	27.95	-745.0	-1,219.5	987.6	958.4	29.21	33.809		
7,950.0	7,740.1	7,742.5	7,741.1	26.3	15.7	31.16	-744.8	-1,219.1	949.7	921.3	28.41	33.423		
8,000.0	7,767.8	7,769.0	7,767.6	26.5	15.7	35.02	-744.5	-1,218.8	910.3	882.3	28.02	32.482		
8,050.0	7,792.8	7,792.8	7,791.4	26.7	15.7	39.65	-744.3	-1,218.4	869.5	841.3	28.20	30.831		
8,100.0	7,815.0	7,813.5	7,812.1	26.9	15.7	45.10	-744.0	-1,218.1	827.6	798.6	29.07	28.469		
8,150.0	7,834.1	7,831.2	7,829.9	27.3	15.7	51.39	-743.7	-1,217.9	784.9	754.3	30.66	25.604		
8,200.0	7,850.2	7,846.1	7,844.7	27.6	15.8	58.43	-743.5	-1,217.7	741.6	708.8	32.82	22.597		
8,250.0	7,863.1	7,858.0	7,856.6	28.0	15.8	65.96	-743.3	-1,217.6	698.1	662.8	35.27	19.794		
8,300.0	7,872.9	7,866.8	7,865.4	28.5	15.8	73.57	-743.2	-1,217.5	654.6	617.0	37.65	17.387		
8,350.0	7,879.4	7,872.6	7,871.2	29.1	15.8	80.78	-743.1	-1,217.4	611.5	571.8	39.70	15.402		
8,400.0	7,882.7	7,875.2	7,873.8	29.8	15.8	87.16	-743.0	-1,217.4	569.2	527.9	41.34	13.769		
8,421.5	7,883.1	7,875.3	7,874.0	30.1	15.8	89.59	-743.0	-1,217.4	551.4	509.4	41.93	13.149		
8,500.0	7,883.5	7,874.8	7,873.5	31.2	15.8	89.49	-743.0	-1,217.4	488.8	445.3	43.53	11.230		
8,600.0	7,883.9	7,874.2	7,872.8	33.0	15.8	89.38	-743.1	-1,217.4	416.9	371.2	45.67	9.129		
8,700.0	7,884.4	7,873.6	7,872.2	34.9	15.8	89.26	-743.1	-1,217.4	358.8	310.8	47.91	7.488		
8,800.0	7,884.9	7,872.9	7,871.5	36.9	15.8	89.14	-743.1	-1,217.4	321.9	271.6	50.23	6.408		
8,875.5	7,885.2	7,872.4	7,871.1	38.5	15.8	89.05	-743.1	-1,217.4	312.9	260.8	52.04	6.013 CC, ES		
8,900.0	7,885.3	7,872.3	7,870.9	39.1	15.8	89.02	-743.1	-1,217.4	313.8	261.2	52.62	5.964 SF		
9,000.0	7,885.8	7,871.6	7,870.2	41.3	15.8	88.90	-743.1	-1,217.4	336.7	281.7	55.06	6.115		
9,100.0	7,886.3	7,870.9	7,869.6	43.7	15.8	88.78	-743.1	-1,217.4	385.1	327.5	57.55	6.691		
9,200.0	7,886.8	7,870.3	7,868.9	46.1	15.8	88.66	-743.1	-1,217.4	450.7	390.7	60.07	7.503		
9,300.0	7,887.2	7,869.6	7,868.2	48.5	15.8	88.53	-743.1	-1,217.4	527.3	464.7	62.63	8.420		
9,400.0	7,887.7	7,868.9	7,867.5	51.0	15.8	88.41	-743.1	-1,217.4	610.7	545.5	65.21	9.365		
9,500.0	7,888.2	7,868.2	7,866.9	53.5	15.8	88.28	-743.2	-1,217.4	698.4	630.6	67.81	10.300		
9,600.0	7,888.6	7,867.5	7,866.2	56.1	15.8	88.16	-743.2	-1,217.4	789.1	718.7	70.43	11.205		
9,700.0	7,889.1	7,866.8	7,865.5	58.7	15.8	88.03	-743.2	-1,217.5	881.8	808.7	73.06	12.069		
9,800.0	7,889.6	7,866.1	7,864.8	61.3	15.8	87.90	-743.2	-1,217.5	975.9	900.2	75.71	12.890		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Rio-LA 6F-434
<b>Project:</b>	SEC.6-T1S-R67W	<b>TVD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Reference Site:</b>	Rio-LA 1S67W6E Pad Sec.6-T1S-R67W	<b>MD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Rio-LA 6F-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (8-4-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 8087- Existing Pad Sec.12-T1S-R68W - Beisel Unit 1 (Exist.) - Wellbore #1 - Wellbore #1													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
8,700.0	7,884.4	7,875.4	7,875.4	34.9	157.5	89.56	-539.4	-1,881.4	985.7	796.0	189.66	5.197		
8,800.0	7,884.9	7,875.9	7,875.9	36.9	157.5	89.61	-539.4	-1,881.4	902.1	710.0	192.01	4.698		
8,900.0	7,885.3	7,876.3	7,876.3	39.1	157.5	89.67	-539.4	-1,881.4	822.1	627.7	194.42	4.228		
9,000.0	7,885.8	7,876.8	7,876.8	41.3	157.5	89.72	-539.4	-1,881.4	746.9	550.0	196.88	3.794		
9,100.0	7,886.3	7,877.3	7,877.3	43.7	157.5	89.77	-539.4	-1,881.4	678.2	478.8	199.39	3.401		
9,200.0	7,886.8	7,877.8	7,877.8	46.1	157.6	89.82	-539.4	-1,881.4	618.1	416.2	201.93	3.061		
9,300.0	7,887.2	7,878.2	7,878.2	48.5	157.6	89.87	-539.4	-1,881.4	569.3	364.8	204.51	2.784		
9,400.0	7,887.7	7,878.7	7,878.7	51.0	157.6	89.93	-539.4	-1,881.4	535.0	327.9	207.11	2.583		
9,500.0	7,888.2	7,879.2	7,879.2	53.5	157.6	89.98	-539.4	-1,881.4	518.0	308.3	209.73	2.470		
9,539.6	7,888.4	7,879.4	7,879.4	54.5	157.6	90.00	-539.4	-1,881.4	516.5	305.7	210.78	2.450 CC, ES		
9,600.0	7,888.6	7,879.6	7,879.6	56.1	157.6	90.03	-539.4	-1,881.4	520.0	307.6	212.38	2.449 SF		
9,700.0	7,889.1	7,880.1	7,880.1	58.7	157.6	90.08	-539.4	-1,881.4	540.8	325.8	215.04	2.515		
9,800.0	7,889.6	7,880.6	7,880.6	61.3	157.6	90.14	-539.4	-1,881.4	578.4	360.7	217.71	2.657		
9,900.0	7,890.1	7,881.1	7,881.1	63.9	157.6	90.19	-539.4	-1,881.4	629.8	409.4	220.39	2.858		
10,000.0	7,890.5	7,881.5	7,881.5	66.5	157.6	90.24	-539.4	-1,881.4	691.9	468.8	223.09	3.102		
10,100.0	7,891.0	7,882.0	7,882.0	69.2	157.6	90.29	-539.4	-1,881.4	762.1	536.3	225.79	3.375		
10,200.0	7,891.5	7,882.5	7,882.5	71.8	157.6	90.35	-539.4	-1,881.4	838.4	609.9	228.51	3.669		
10,300.0	7,891.9	7,882.9	7,882.9	74.5	157.7	90.40	-539.4	-1,881.4	919.2	688.0	231.23	3.975		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Rio-LA 6F-434
<b>Project:</b>	SEC.6-T1S-R67W	<b>TVD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Reference Site:</b>	Rio-LA 1S67W6E Pad Sec.6-T1S-R67W	<b>MD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Rio-LA 6F-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (8-4-15)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b>													Offset Site Error:	0.0 ft
Survey Program: 100- Existing Pad Sec.12-T1S-R68W - Sterkel 21-1 - Wellbore #1 - Wellbore #1													Offset Well Error:	0.0 ft
Reference	Offset		Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
11,000.0	7,895.2	7,913.9	7,910.6	93.4	20.1	90.50	-109.0	-3,578.2	976.0	863.3	112.78	8.654		
11,100.0	7,895.7	7,918.1	7,914.7	96.1	20.1	90.75	-109.1	-3,578.3	956.7	841.2	115.55	8.280		
11,200.0	7,896.2	7,922.2	7,918.9	98.9	20.1	91.00	-109.1	-3,578.5	947.6	829.3	118.31	8.009		
11,236.8	7,896.4	7,923.8	7,920.5	99.9	20.1	91.10	-109.2	-3,578.5	946.9	827.6	119.33	7.935 CC, ES		
11,300.0	7,896.7	7,926.4	7,923.1	101.6	20.1	91.26	-109.2	-3,578.6	949.0	827.9	121.08	7.838		
11,400.0	7,897.1	7,930.7	7,927.3	104.4	20.1	91.51	-109.3	-3,578.8	960.9	837.0	123.85	7.758 SF		
11,500.0	7,897.6	7,934.9	7,931.6	107.1	20.1	91.77	-109.4	-3,579.0	982.8	856.1	126.61	7.762		



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Rio-LA 6F-434
<b>Project:</b>	SEC.6-T1S-R67W	<b>TVD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Reference Site:</b>	Rio-LA 1S67W6E Pad Sec.6-T1S-R67W	<b>MD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Rio-LA 6F-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (8-4-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells Sec.6-T1S-R67W - Sack 11-6 (Exist.) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.0	0.0	0.0	0.0	0.0	0.0	67.41	116.6	280.2	303.9				
100.0	100.0	87.1	87.1	0.1	0.1	67.40	116.4	279.7	303.0	302.8	0.23	1,326.784	
200.0	200.0	187.5	187.5	0.3	0.4	67.41	115.9	278.7	301.9	301.2	0.70	430.896	
300.0	300.0	286.2	286.2	0.5	0.6	-112.85	115.3	277.9	301.2	300.1	1.16	260.438	
304.3	304.3	290.5	290.5	0.5	0.6	-112.86	115.3	277.9	301.2	300.1	1.18	256.071 CC	
400.0	400.0	386.0	386.0	0.7	0.9	-113.24	114.7	277.4	301.6	300.0	1.62	186.662 ES	
500.0	499.9	486.6	486.6	1.0	1.1	-113.99	114.4	276.7	302.6	300.5	2.09	144.856	
600.0	599.7	587.6	587.6	1.2	1.4	-115.11	114.3	275.6	304.0	301.5	2.57	118.136	
700.0	699.4	688.5	688.5	1.4	1.6	-116.46	113.8	274.2	306.0	302.9	3.08	99.335	
800.0	798.9	788.5	788.4	1.7	1.9	-117.94	112.6	272.8	308.6	305.0	3.60	85.759	
900.0	898.3	887.8	887.7	2.0	2.2	-119.60	111.1	271.6	312.3	308.2	4.13	75.678	
1,000.0	997.4	986.4	986.3	2.3	2.4	-121.48	109.8	270.5	317.3	312.7	4.67	67.971	
1,100.0	1,096.3	1,085.3	1,085.2	2.6	2.7	-123.58	108.8	269.4	323.8	318.6	5.23	61.964	
1,200.0	1,194.9	1,183.5	1,183.4	3.0	2.9	-125.87	108.1	268.1	331.8	326.1	5.79	57.311	
1,300.0	1,293.3	1,281.8	1,281.7	3.4	3.2	-128.29	107.5	266.9	341.6	335.3	6.36	53.700	
1,400.0	1,391.2	1,379.9	1,379.8	3.8	3.5	-130.74	106.9	265.8	353.2	346.2	6.94	50.896	
1,420.7	1,411.5	1,400.0	1,399.9	3.9	3.5	-131.24	106.7	265.6	355.8	348.7	7.06	50.406	
1,500.0	1,489.0	1,477.2	1,477.1	4.2	3.7	-133.20	106.2	264.8	366.3	358.7	7.52	48.726	
1,600.0	1,586.7	1,575.1	1,575.0	4.7	4.0	-135.53	105.6	263.9	380.1	372.0	8.09	47.006	
1,700.0	1,684.5	1,672.3	1,672.2	5.1	4.2	-137.73	105.3	262.8	394.6	386.0	8.64	45.671	
1,800.0	1,782.2	1,769.8	1,769.7	5.6	4.5	-139.81	105.2	261.6	409.8	400.6	9.18	44.654	
1,900.0	1,879.9	1,867.6	1,867.4	6.0	4.7	-141.79	105.3	260.2	425.5	415.8	9.70	43.868	
2,000.0	1,977.7	1,965.3	1,965.2	6.5	4.9	-143.65	105.5	258.5	441.7	431.5	10.21	43.254	
2,100.0	2,075.4	2,063.4	2,063.2	6.9	5.2	-145.40	105.8	256.8	458.3	447.5	10.72	42.753	
2,200.0	2,173.2	2,162.4	2,162.2	7.4	5.4	-147.07	106.0	254.9	475.1	463.8	11.23	42.311	
2,300.0	2,270.9	2,261.1	2,260.8	7.8	5.7	-148.63	106.0	252.7	491.9	480.2	11.74	41.908	
2,400.0	2,368.6	2,358.6	2,358.4	8.3	5.9	-150.07	106.0	250.4	509.0	496.8	12.24	41.574	
2,500.0	2,466.4	2,455.8	2,455.5	8.7	6.2	-151.44	106.1	248.1	526.5	513.8	12.74	41.317	
2,600.0	2,564.1	2,552.8	2,552.4	9.2	6.4	-152.73	106.4	245.7	544.4	531.2	13.24	41.128	
2,700.0	2,661.9	2,648.9	2,648.6	9.7	6.6	-153.94	106.9	243.2	562.8	549.0	13.72	41.014	
2,800.0	2,759.6	2,746.0	2,745.6	10.1	6.9	-155.11	107.7	240.6	581.6	567.4	14.20	40.955	
2,900.0	2,857.3	2,844.2	2,843.8	10.6	7.1	-156.23	108.5	237.9	600.5	585.9	14.68	40.902	
3,000.0	2,955.1	2,942.9	2,942.5	11.0	7.4	-157.27	109.1	235.4	619.6	604.5	15.17	40.843	
3,100.0	3,052.8	3,043.1	3,042.6	11.5	7.6	-158.19	109.2	233.3	638.5	622.8	15.67	40.737	
3,200.0	3,150.6	3,141.4	3,140.9	11.9	7.9	-158.98	108.7	231.8	657.3	641.1	16.18	40.618	
3,300.0	3,248.3	3,237.9	3,237.4	12.4	8.1	-159.68	108.2	230.8	676.3	659.6	16.69	40.528	
3,400.0	3,346.0	3,334.3	3,333.8	12.9	8.4	-160.32	107.8	230.1	695.6	678.4	17.19	40.462	
3,500.0	3,443.8	3,430.7	3,430.2	13.3	8.6	-160.91	107.5	229.6	715.1	697.4	17.69	40.415 SF	
3,600.0	3,541.5	3,526.5	3,526.0	13.8	8.9	-161.46	107.4	229.2	734.9	716.8	18.18	40.417	
3,700.0	3,639.3	3,619.7	3,619.1	14.2	9.0	-161.98	107.8	228.9	755.3	736.7	18.61	40.582	
3,800.0	3,737.0	3,715.8	3,715.3	14.7	9.1	-162.48	108.5	228.8	776.2	757.2	18.98	40.893	
3,900.0	3,834.7	3,815.2	3,814.7	15.2	9.3	-162.96	109.2	228.8	797.0	777.7	19.34	41.207	
4,000.0	3,932.5	3,918.0	3,917.5	15.6	9.4	-163.42	109.3	228.7	817.4	797.7	19.79	41.313	
4,100.0	4,030.2	4,015.2	4,014.7	16.1	9.7	-163.84	109.3	228.6	837.7	817.4	20.29	41.285	
4,200.0	4,127.9	4,112.0	4,111.5	16.6	9.9	-164.27	109.4	228.0	858.0	837.2	20.79	41.274	
4,300.0	4,225.7	4,207.3	4,206.8	17.0	10.2	-164.71	109.9	227.0	878.6	857.4	21.27	41.312	
4,400.0	4,323.4	4,304.9	4,304.3	17.5	10.4	-165.15	110.5	225.8	899.4	877.7	21.75	41.360	
4,500.0	4,421.2	4,402.2	4,401.6	17.9	10.6	-165.58	111.3	224.4	920.3	898.0	22.23	41.404	
4,600.0	4,518.9	4,501.8	4,501.2	18.4	10.9	-166.03	112.0	222.6	941.1	918.3	22.72	41.425	
4,700.0	4,616.6	4,598.1	4,597.5	18.9	11.1	-166.46	112.8	220.5	961.9	938.7	23.21	41.451	
4,800.0	4,714.4	4,694.7	4,694.1	19.3	11.3	-166.90	113.7	218.1	982.9	959.2	23.69	41.485	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Rio-LA 6F-434
<b>Project:</b>	SEC.6-T1S-R67W	<b>TVD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Reference Site:</b>	Rio-LA 1S67W6E Pad Sec.6-T1S-R67W	<b>MD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Rio-LA 6F-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (8-4-15)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Rio-LA 6F-434
<b>Project:</b>	SEC.6-T1S-R67W	<b>TVD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Reference Site:</b>	Rio-LA 1S67W6E Pad Sec.6-T1S-R67W	<b>MD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Rio-LA 6F-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (8-4-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Existing Wells Sec.6-T1S-R67W - Sack 12-6 (Exist.) - Wellbore #1 - Wellbore #1											Offset Site Error:		0.0 ft
Survey Program:		100-NS-GYRO-MS											Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
2,200.0	2,173.2	2,187.7	2,184.2	7.4	4.7	-28.23	-1,172.6	452.2	989.1	978.8	10.24	96.636			
2,300.0	2,270.9	2,280.2	2,276.6	7.8	4.9	-28.82	-1,169.2	451.1	966.6	955.8	10.81	89.452			
2,400.0	2,368.6	2,371.1	2,367.5	8.3	5.1	-29.40	-1,166.5	449.8	944.8	933.5	11.37	83.080			
2,500.0	2,466.4	2,464.0	2,460.3	8.7	5.3	-29.98	-1,164.6	448.1	923.7	911.8	11.94	77.378			
2,600.0	2,564.1	2,559.3	2,555.6	9.2	5.6	-30.57	-1,163.2	446.1	903.0	890.5	12.50	72.222			
2,700.0	2,661.9	2,655.0	2,651.3	9.7	5.8	-31.16	-1,162.0	443.9	882.6	869.6	13.07	67.548			
2,800.0	2,759.6	2,749.9	2,746.2	10.1	6.0	-31.76	-1,161.2	441.6	862.5	848.9	13.62	63.326			
2,900.0	2,857.3	2,843.1	2,839.3	10.6	6.1	-32.34	-1,161.0	439.2	842.9	828.8	14.16	59.535			
3,000.0	2,955.1	2,936.6	2,932.8	11.0	6.3	-32.93	-1,161.3	436.8	824.0	809.3	14.68	56.116			
3,100.0	3,052.8	3,033.1	3,029.3	11.5	6.4	-33.55	-1,162.1	434.3	805.5	790.3	15.21	52.953			
3,200.0	3,150.6	3,130.1	3,126.2	11.9	6.6	-34.19	-1,163.0	431.7	787.2	771.4	15.75	49.994			
3,300.0	3,248.3	3,226.9	3,223.0	12.4	6.7	-34.85	-1,164.2	429.0	769.1	752.8	16.28	47.228			
3,400.0	3,346.0	3,323.5	3,319.5	12.9	6.9	-35.51	-1,165.7	426.2	751.3	734.4	16.83	44.643			
3,500.0	3,443.8	3,421.0	3,417.0	13.3	7.0	-36.19	-1,167.4	423.2	733.7	716.3	17.38	42.212			
3,600.0	3,541.5	3,519.8	3,515.7	13.8	7.2	-36.89	-1,169.3	420.0	716.2	698.3	17.95	39.902			
3,700.0	3,639.3	3,618.2	3,614.0	14.2	7.4	-37.61	-1,171.2	416.6	698.8	680.2	18.53	37.709			
3,800.0	3,737.0	3,717.4	3,713.1	14.7	7.5	-38.38	-1,173.0	413.2	681.3	662.2	19.13	35.613			
3,900.0	3,834.7	3,817.2	3,812.9	15.2	7.7	-39.23	-1,174.4	409.9	663.8	644.0	19.76	33.595			
4,000.0	3,932.5	3,917.6	3,913.2	15.6	7.9	-40.15	-1,175.3	406.6	646.0	625.6	20.42	31.646			
4,100.0	4,030.2	4,015.7	4,011.2	16.1	8.1	-41.11	-1,176.1	403.3	628.3	607.2	21.09	29.798			
4,200.0	4,127.9	4,113.1	4,108.6	16.6	8.4	-42.11	-1,176.9	400.0	610.8	589.0	21.77	28.060			
4,300.0	4,225.7	4,211.8	4,207.2	17.0	8.6	-43.17	-1,177.8	396.4	593.4	570.9	22.46	26.415			
4,400.0	4,323.4	4,309.6	4,305.0	17.5	8.8	-44.24	-1,178.9	392.6	576.1	552.9	23.17	24.866			
4,500.0	4,421.2	4,407.0	4,402.2	17.9	9.0	-45.34	-1,180.3	388.7	559.1	535.2	23.88	23.413			
4,600.0	4,518.9	4,504.1	4,499.2	18.4	9.2	-46.45	-1,182.1	384.5	542.5	517.9	24.60	22.054			
4,700.0	4,616.6	4,600.0	4,595.0	18.9	9.4	-47.57	-1,184.3	380.2	526.3	501.0	25.31	20.790			
4,800.0	4,714.4	4,695.2	4,690.1	19.3	9.6	-48.69	-1,187.2	376.0	510.8	484.8	26.03	19.624			
4,900.0	4,812.1	4,794.1	4,788.8	19.8	9.8	-49.92	-1,190.5	371.7	495.8	469.0	26.77	18.523			
5,000.0	4,909.9	4,893.8	4,888.4	20.2	10.0	-51.26	-1,193.4	367.4	480.8	453.3	27.54	17.463			
5,100.0	5,007.6	4,992.9	4,987.3	20.7	10.2	-52.70	-1,196.1	363.1	465.9	437.6	28.33	16.448			
5,200.0	5,105.3	5,092.6	5,086.9	21.2	10.4	-54.22	-1,198.7	358.4	451.0	421.9	29.14	15.479			
5,300.0	5,203.1	5,193.0	5,187.1	21.6	10.7	-55.82	-1,201.4	353.2	436.0	406.1	29.97	14.549			
5,400.0	5,300.8	5,294.2	5,288.1	22.1	10.9	-57.52	-1,203.9	347.3	420.8	390.0	30.83	13.650			
5,495.6	5,394.3	5,390.1	5,383.8	22.5	11.1	-59.24	-1,205.9	341.1	405.9	374.3	31.66	12.821			
5,500.0	5,398.6	5,394.5	5,388.2	22.6	11.1	-59.31	-1,206.0	340.8	405.2	373.5	31.70	12.785			
5,600.0	5,496.7	5,493.8	5,487.3	22.9	11.4	-60.73	-1,207.9	334.1	390.6	358.2	32.40	12.054			
5,700.0	5,595.4	5,593.2	5,586.4	23.1	11.6	-61.86	-1,209.7	327.2	377.7	344.7	33.04	11.432			
5,800.0	5,694.6	5,691.7	5,684.7	23.3	11.9	-62.66	-1,211.1	320.6	366.7	333.1	33.60	10.911			
5,900.0	5,794.2	5,789.4	5,782.2	23.5	12.1	-63.12	-1,212.2	314.5	357.6	323.5	34.09	10.489			
6,000.0	5,894.1	5,888.4	5,881.0	23.7	12.4	-63.23	-1,213.1	308.9	350.5	316.0	34.50	10.158			
6,106.0	6,000.0	5,993.1	5,985.6	23.8	12.6	117.27	-1,213.8	303.3	344.9	315.2	29.75	11.595			
6,200.0	6,094.0	6,085.8	6,078.2	23.9	12.9	117.66	-1,214.2	298.9	341.1	311.0	30.18	11.302			
6,300.0	6,194.0	6,185.9	6,178.2	24.0	13.1	118.02	-1,214.2	294.5	337.3	306.7	30.63	11.013			
6,400.0	6,294.0	6,285.8	6,278.0	24.1	13.4	118.36	-1,214.2	290.2	333.4	302.3	31.07	10.731			
6,500.0	6,394.0	6,386.0	6,378.1	24.2	13.6	118.67	-1,213.9	285.9	329.5	298.0	31.51	10.457			
6,600.0	6,494.0	6,486.1	6,478.1	24.3	13.9	118.92	-1,213.2	281.7	325.5	293.5	31.94	10.190			
6,700.0	6,594.0	6,585.8	6,577.7	24.4	14.2	119.17	-1,212.5	277.5	321.5	289.1	32.38	9.931			
6,800.0	6,694.0	6,685.1	6,676.9	24.5	14.4	119.43	-1,211.9	273.5	317.7	284.9	32.81	9.682			
6,900.0	6,794.0	6,784.0	6,775.8	24.6	14.7	119.70	-1,211.5	269.7	314.1	280.8	33.25	9.447			
7,000.0	6,894.0	6,882.0	6,873.7	24.7	14.9	119.96	-1,211.2	266.3	311.0	277.3	33.68	9.232			
7,100.0	6,994.0	6,980.1	6,971.7	24.8	15.2	120.18	-1,211.0	263.6	308.5	274.4	34.11	9.043			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Rio-LA 6F-434
<b>Project:</b>	SEC.6-T1S-R67W	<b>TVD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Reference Site:</b>	Rio-LA 1S67W6E Pad Sec.6-T1S-R67W	<b>MD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Rio-LA 6F-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (8-4-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design Existing Wells Sec.6-T1S-R67W - Sack 12-6 (Exist.) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
7,200.0	7,094.0	7,078.8	7,070.5	24.9	15.4	120.37	-1,210.9	261.4	306.6	272.0	34.54	8.875		
7,225.1	7,119.2	7,103.7	7,095.3	25.0	15.5	120.41	-1,210.9	261.0	306.1	271.5	34.65	8.835		
7,239.3	7,133.3	7,117.6	7,109.2	25.0	15.5	-149.58	-1,210.9	260.7	306.0	267.3	38.67	7.914 CC, ES		
7,250.0	7,144.0	7,128.1	7,119.8	25.0	15.6	-149.58	-1,210.9	260.5	306.1	267.4	38.69	7.910 SF		
7,300.0	7,193.9	7,177.3	7,168.9	25.1	15.7	-149.72	-1,210.9	259.7	308.2	269.4	38.76	7.950		
7,350.0	7,243.5	7,225.9	7,217.5	25.1	15.8	-150.04	-1,211.0	259.0	313.3	274.5	38.73	8.088		
7,400.0	7,292.5	7,273.9	7,265.5	25.2	15.9	-150.49	-1,211.2	258.4	321.4	282.8	38.59	8.328		
7,450.0	7,340.8	7,321.3	7,312.9	25.3	16.0	-151.06	-1,211.6	258.0	332.5	294.2	38.33	8.676		
7,500.0	7,388.2	7,368.0	7,359.6	25.3	16.1	-151.71	-1,212.0	257.7	346.7	308.8	37.92	9.142		
7,550.0	7,434.3	7,412.9	7,404.5	25.4	16.2	-152.37	-1,212.4	257.5	363.9	326.5	37.38	9.734		
7,600.0	7,479.2	7,455.1	7,446.7	25.5	16.3	-152.96	-1,212.9	257.5	384.2	347.5	36.68	10.475		
7,650.0	7,522.5	7,495.7	7,487.2	25.6	16.3	-153.48	-1,213.6	257.7	407.6	371.8	35.84	11.373		
7,700.0	7,564.0	7,535.6	7,527.2	25.6	16.3	-153.94	-1,214.3	258.2	434.1	399.2	34.87	12.450		
7,750.0	7,603.7	7,573.7	7,565.3	25.7	16.4	-154.30	-1,214.9	258.7	463.3	429.5	33.78	13.716		
7,800.0	7,641.3	7,610.0	7,601.6	25.8	16.4	-154.51	-1,215.5	259.3	495.2	462.6	32.59	15.193		
7,850.0	7,676.7	7,645.3	7,636.9	26.0	16.4	-154.61	-1,215.9	260.0	529.5	498.1	31.33	16.901		
7,900.0	7,709.6	7,678.1	7,669.7	26.1	16.4	-154.50	-1,216.1	260.6	566.1	536.0	30.02	18.854		
7,950.0	7,740.1	7,708.3	7,699.8	26.3	16.4	-154.13	-1,216.2	261.2	604.8	576.0	28.72	21.057		
8,000.0	7,767.8	7,735.9	7,727.4	26.5	16.4	-153.42	-1,216.2	261.7	645.4	617.9	27.49	23.483		
8,050.0	7,792.8	7,760.7	7,752.2	26.7	16.4	-152.28	-1,216.3	262.1	687.9	661.5	26.41	26.046		
8,100.0	7,815.0	7,782.6	7,774.1	26.9	16.4	-150.55	-1,216.3	262.5	731.9	706.3	25.63	28.556		
8,150.0	7,834.1	7,801.5	7,793.0	27.3	16.4	-148.01	-1,216.3	262.8	777.3	752.0	25.35	30.664		
8,200.0	7,850.2	7,817.1	7,808.6	27.6	16.4	-144.25	-1,216.2	263.0	824.0	798.1	25.87	31.845		
8,250.0	7,863.1	7,829.6	7,821.1	28.0	16.4	-138.62	-1,216.2	263.2	871.6	843.9	27.62	31.551		
8,300.0	7,872.9	7,838.8	7,830.3	28.5	16.5	-129.96	-1,216.2	263.4	919.9	888.8	31.09	29.587		
8,350.0	7,879.4	7,844.7	7,836.3	29.1	16.5	-116.44	-1,216.2	263.5	968.9	932.5	36.39	26.622		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Rio-LA 6F-434
<b>Project:</b>	SEC.6-T1S-R67W	<b>TVD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Reference Site:</b>	Rio-LA 1S67W6E Pad Sec.6-T1S-R67W	<b>MD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Rio-LA 6F-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (8-4-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-4.19	76.5	-5.6	76.7				
100.0	100.0	100.0	100.0	0.1	0.1	-4.19	76.5	-5.6	76.7	76.5	0.22	341.304	
200.0	200.0	200.0	200.0	0.3	0.3	-4.19	76.5	-5.6	76.7	76.0	0.67	113.768 CC, ES	
300.0	300.0	300.0	300.0	0.5	0.6	175.70	76.5	-5.6	77.6	76.5	1.10	70.238	
400.0	400.0	400.0	400.0	0.7	0.8	175.84	76.5	-5.6	80.2	78.7	1.53	52.267	
500.0	499.9	499.9	499.9	1.0	1.0	176.05	76.5	-5.6	84.5	82.6	1.98	42.759	
600.0	599.7	599.7	599.7	1.2	1.2	176.31	76.5	-5.6	90.6	88.2	2.43	37.358	
700.0	699.4	699.4	699.4	1.4	1.5	176.60	76.5	-5.6	98.5	95.6	2.88	34.211	
800.0	798.9	798.9	798.9	1.7	1.7	176.89	76.5	-5.6	108.0	104.7	3.33	32.420	
900.0	898.3	898.3	898.3	2.0	1.9	177.18	76.5	-5.6	119.3	115.6	3.79	31.505	
1,000.0	997.4	997.4	997.4	2.3	2.1	177.46	76.5	-5.6	132.4	128.1	4.24	31.186 SF	
1,100.0	1,096.3	1,096.3	1,096.3	2.6	2.4	177.70	76.5	-5.6	147.1	142.4	4.70	31.291	
1,200.0	1,194.9	1,194.9	1,194.9	3.0	2.6	177.93	76.5	-5.6	163.6	158.5	5.16	31.704	
1,300.0	1,293.3	1,293.3	1,293.3	3.4	2.8	178.13	76.5	-5.6	181.9	176.2	5.62	32.351	
1,400.0	1,391.2	1,391.2	1,391.2	3.8	3.0	178.31	76.5	-5.6	201.8	195.7	6.08	33.176	
1,420.7	1,411.5	1,411.5	1,411.5	3.9	3.1	178.34	76.5	-5.6	206.1	199.9	6.18	33.366	
1,500.0	1,489.0	1,489.0	1,489.0	4.2	3.2	178.47	76.5	-5.6	222.9	216.3	6.55	34.048	
1,600.0	1,586.7	1,586.7	1,586.7	4.7	3.5	178.60	76.5	-5.6	244.0	237.0	7.01	34.794	
1,700.0	1,684.5	1,684.5	1,684.5	5.1	3.7	178.71	76.5	-5.6	265.2	257.7	7.48	35.435	
1,800.0	1,782.2	1,782.2	1,782.2	5.6	3.9	178.81	76.5	-5.6	286.3	278.3	7.95	35.992	
1,900.0	1,879.9	1,876.3	1,876.3	6.0	4.1	178.93	77.0	-5.4	307.9	299.5	8.42	36.571	
2,000.0	1,977.7	1,969.1	1,969.0	6.5	4.3	179.16	78.7	-4.5	330.9	322.0	8.88	37.249	
2,100.0	2,075.4	2,061.1	2,061.0	6.9	4.5	179.48	81.8	-2.9	355.3	345.9	9.35	38.012	
2,200.0	2,173.2	2,152.5	2,152.3	7.4	4.7	179.85	86.2	-0.7	381.1	371.3	9.81	38.848	
2,300.0	2,270.9	2,243.1	2,242.7	7.8	4.9	-179.73	91.8	2.1	408.2	398.0	10.27	39.746	
2,400.0	2,368.6	2,332.9	2,332.2	8.3	5.1	-179.27	98.6	5.6	436.8	426.1	10.73	40.696	
2,500.0	2,466.4	2,421.9	2,420.7	8.7	5.3	-178.79	106.6	9.6	466.7	455.5	11.20	41.685	
2,600.0	2,564.1	2,516.5	2,514.7	9.2	5.6	-178.30	115.8	14.3	497.4	485.8	11.67	42.625	
2,700.0	2,661.9	2,611.6	2,609.2	9.7	5.8	-177.87	125.1	19.0	528.2	516.0	12.14	43.491	
2,800.0	2,759.6	2,706.6	2,703.7	10.1	6.0	-177.48	134.4	23.8	559.0	546.3	12.62	44.285	
2,900.0	2,857.3	2,801.7	2,798.2	10.6	6.3	-177.13	143.7	28.5	589.8	576.7	13.10	45.017	
3,000.0	2,955.1	2,896.8	2,892.7	11.0	6.5	-176.82	153.0	33.2	620.6	607.0	13.58	45.694	
3,100.0	3,052.8	2,991.9	2,987.2	11.5	6.8	-176.54	162.3	37.9	651.4	637.4	14.06	46.320	
3,200.0	3,150.6	3,087.0	3,081.7	11.9	7.0	-176.28	171.6	42.6	682.3	667.7	14.55	46.903	
3,300.0	3,248.3	3,182.1	3,176.3	12.4	7.3	-176.04	180.9	47.3	713.1	698.1	15.03	47.445	
3,400.0	3,346.0	3,277.1	3,270.8	12.9	7.5	-175.83	190.2	52.0	744.0	728.5	15.52	47.951	
3,500.0	3,443.8	3,372.2	3,365.3	13.3	7.8	-175.63	199.5	56.8	774.9	758.9	16.00	48.424	
3,600.0	3,541.5	3,467.3	3,459.8	13.8	8.1	-175.44	208.8	61.5	805.8	789.3	16.49	48.867	
3,700.0	3,639.3	3,562.4	3,554.3	14.2	8.3	-175.27	218.1	66.2	836.7	819.7	16.98	49.283	
3,800.0	3,737.0	3,657.5	3,648.8	14.7	8.6	-175.12	227.4	70.9	867.5	850.1	17.46	49.675	
3,900.0	3,834.7	3,752.5	3,743.3	15.2	8.9	-174.97	236.7	75.6	898.5	880.5	17.95	50.044	
4,000.0	3,932.5	3,847.6	3,837.8	15.6	9.1	-174.83	245.9	80.3	929.4	910.9	18.44	50.392	
4,100.0	4,030.2	3,942.7	3,932.3	16.1	9.4	-174.70	255.2	85.0	960.3	941.3	18.93	50.721	
4,200.0	4,127.9	4,037.8	4,026.8	16.6	9.7	-174.58	264.5	89.8	991.2	971.8	19.42	51.032	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Rio-LA 6F-434
<b>Project:</b>	SEC.6-T1S-R67W	<b>TVD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Reference Site:</b>	Rio-LA 1S67W6E Pad Sec.6-T1S-R67W	<b>MD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Rio-LA 6F-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (8-4-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-5.27	91.1	-8.4	91.5					
100.0	100.0	100.0	100.0	0.1	0.1	-5.27	91.1	-8.4	91.5	91.2	0.22	406.944		
200.0	200.0	200.0	200.0	0.3	0.3	-5.27	91.1	-8.4	91.5	90.8	0.67	135.648 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.6	174.62	91.1	-8.4	92.3	91.2	1.10	83.595		
400.0	400.0	400.0	400.0	0.7	0.8	174.76	91.1	-8.4	94.9	93.4	1.53	61.880		
500.0	499.9	499.9	499.9	1.0	1.0	174.99	91.1	-8.4	99.3	97.3	1.98	50.216		
600.0	599.7	599.7	599.7	1.2	1.2	175.27	91.1	-8.4	105.4	102.9	2.43	43.431		
700.0	699.4	699.4	699.4	1.4	1.5	175.59	91.1	-8.4	113.2	110.3	2.88	39.325		
800.0	798.9	798.9	798.9	1.7	1.7	175.93	91.1	-8.4	122.7	119.4	3.33	36.833		
900.0	898.3	898.3	898.3	2.0	1.9	176.27	91.1	-8.4	134.0	130.3	3.79	35.384		
1,000.0	997.4	997.4	997.4	2.3	2.1	176.59	91.1	-8.4	147.1	142.8	4.25	34.644		
1,100.0	1,096.3	1,093.7	1,093.7	2.6	2.3	176.82	91.8	-8.6	162.6	157.9	4.70	34.598 SF		
1,200.0	1,194.9	1,189.2	1,189.1	3.0	2.6	176.90	94.1	-9.3	181.4	176.3	5.16	35.187		
1,300.0	1,293.3	1,283.6	1,283.5	3.4	2.8	176.88	97.8	-10.5	203.5	197.9	5.61	36.264		
1,400.0	1,391.2	1,376.9	1,376.7	3.8	3.0	176.79	102.9	-12.1	228.9	222.8	6.07	37.716		
1,420.7	1,411.5	1,396.1	1,395.8	3.9	3.0	176.76	104.2	-12.4	234.5	228.4	6.16	38.055		
1,500.0	1,489.0	1,469.1	1,468.6	4.2	3.2	176.65	109.4	-14.1	256.9	250.4	6.53	39.371		
1,600.0	1,586.7	1,560.5	1,559.6	4.7	3.4	176.47	117.2	-16.5	286.4	279.5	6.98	41.019		
1,700.0	1,684.5	1,650.9	1,649.5	5.1	3.6	176.25	126.4	-19.3	317.5	310.0	7.44	42.656		
1,800.0	1,782.2	1,740.4	1,738.4	5.6	3.9	176.02	136.7	-22.5	349.9	342.0	7.90	44.282		
1,900.0	1,879.9	1,829.0	1,826.1	6.0	4.1	175.78	148.3	-26.1	383.8	375.4	8.36	45.897		
2,000.0	1,977.7	1,916.5	1,912.6	6.5	4.4	175.53	161.0	-30.0	419.1	410.3	8.82	47.500		
2,100.0	2,075.4	2,004.0	1,998.9	6.9	4.6	175.28	174.9	-34.3	455.8	446.5	9.29	49.060		
2,200.0	2,173.2	2,096.8	2,090.3	7.4	4.9	175.04	190.2	-39.0	493.0	483.2	9.76	50.497		
2,300.0	2,270.9	2,189.6	2,181.7	7.8	5.2	174.83	205.4	-43.8	530.2	520.0	10.24	51.787		
2,400.0	2,368.6	2,282.5	2,273.2	8.3	5.5	174.65	220.7	-48.5	567.4	556.7	10.72	52.952		
2,500.0	2,466.4	2,375.3	2,364.6	8.7	5.9	174.49	235.9	-53.2	604.6	593.4	11.19	54.009		
2,600.0	2,564.1	2,468.1	2,456.0	9.2	6.2	174.35	251.2	-57.9	641.8	630.1	11.68	54.970		
2,700.0	2,661.9	2,560.9	2,547.4	9.7	6.5	174.23	266.5	-62.6	679.0	666.9	12.16	55.848		
2,800.0	2,759.6	2,653.7	2,638.9	10.1	6.8	174.12	281.7	-67.4	716.3	703.6	12.64	56.653		
2,900.0	2,857.3	2,746.5	2,730.3	10.6	7.2	174.02	297.0	-72.1	753.5	740.4	13.13	57.393		
3,000.0	2,955.1	2,839.3	2,821.7	11.0	7.5	173.92	312.2	-76.8	790.7	777.1	13.61	58.076		
3,100.0	3,052.8	2,932.1	2,913.1	11.5	7.8	173.84	327.5	-81.5	827.9	813.8	14.10	58.708		
3,200.0	3,150.6	3,024.9	3,004.5	11.9	8.2	173.77	342.8	-86.2	865.2	850.6	14.59	59.294		
3,300.0	3,248.3	3,117.7	3,096.0	12.4	8.5	173.70	358.0	-90.9	902.4	887.3	15.08	59.838		
3,400.0	3,346.0	3,210.5	3,187.4	12.9	8.9	173.63	373.3	-95.7	939.6	924.0	15.57	60.346		
3,500.0	3,443.8	3,303.3	3,278.8	13.3	9.2	173.57	388.5	-100.4	976.8	960.8	16.06	60.820		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Rio-LA 6F-434
<b>Project:</b>	SEC.6-T1S-R67W	<b>TVD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Reference Site:</b>	Rio-LA 1S67W6E Pad Sec.6-T1S-R67W	<b>MD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Rio-LA 6F-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (8-4-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference													
Offset				Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-5.49	29.2	-2.8	29.3				
100.0	100.0	100.0	100.0	0.1	0.1	-5.49	29.2	-2.8	29.3	29.1	0.22	130.313	
200.0	200.0	200.0	200.0	0.3	0.3	-5.49	29.2	-2.8	29.3	28.6	0.67	43.438 CC, ES	
300.0	300.0	300.0	300.0	0.5	0.6	-174.51	29.2	-2.8	30.2	29.1	1.10	27.303	
400.0	400.0	400.0	400.0	0.7	0.8	-174.95	29.2	-2.8	32.8	31.2	1.53	21.355	
500.0	499.9	499.9	499.9	1.0	1.0	-175.54	29.2	-2.8	37.1	35.1	1.98	18.770	
600.0	599.7	599.7	599.7	1.2	1.2	-176.16	29.2	-2.8	43.2	40.8	2.43	17.806	
700.0	699.4	699.4	699.4	1.4	1.5	-176.75	29.2	-2.8	51.0	48.2	2.88	17.730	
800.0	798.9	798.9	798.9	1.7	1.7	-177.26	29.2	-2.8	60.6	57.3	3.33	18.186	
900.0	898.3	899.5	899.5	2.0	1.9	-177.81	28.3	-2.6	71.1	67.3	3.76	18.896	
1,000.0	997.4	1,000.2	1,000.2	2.3	2.1	-178.50	25.7	-2.0	81.6	77.4	4.17	19.556	
1,100.0	1,096.3	1,101.2	1,101.0	2.6	2.3	-179.28	21.4	-1.1	92.1	87.5	4.59	20.053	
1,200.0	1,194.9	1,202.3	1,202.0	3.0	2.5	-179.89	15.4	0.2	102.7	97.6	5.02	20.431	
1,300.0	1,293.3	1,303.6	1,302.9	3.4	2.7	-179.01	7.6	2.0	113.3	107.8	5.47	20.719	
1,400.0	1,391.2	1,405.0	1,403.9	3.8	2.9	-178.09	-2.0	4.1	123.9	118.0	5.92	20.936	
1,420.7	1,411.5	1,426.0	1,424.8	3.9	3.0	-177.90	-4.2	4.6	126.1	120.1	6.01	20.972	
1,500.0	1,489.0	1,506.6	1,504.8	4.2	3.2	-177.15	-13.3	6.6	134.1	127.7	6.38	21.003	
1,600.0	1,586.7	1,606.1	1,603.6	4.7	3.4	-176.27	-25.2	9.2	143.6	136.7	6.86	20.931	
1,700.0	1,684.5	1,705.7	1,702.4	5.1	3.7	-175.50	-37.1	11.9	153.0	145.7	7.34	20.845	
1,800.0	1,782.2	1,805.2	1,801.2	5.6	4.0	-174.81	-49.0	14.5	162.6	154.7	7.83	20.759	
1,900.0	1,879.9	1,904.7	1,899.9	6.0	4.3	-174.21	-60.9	17.1	172.1	163.8	8.33	20.669	
2,000.0	1,977.7	2,004.2	1,998.7	6.5	4.6	-173.66	-72.8	19.7	181.6	172.8	8.83	20.579	
2,100.0	2,075.4	2,103.8	2,097.5	6.9	4.9	-173.17	-84.7	22.4	191.2	181.9	9.33	20.491	
2,200.0	2,173.2	2,203.3	2,196.3	7.4	5.2	-172.73	-96.6	25.0	200.8	190.9	9.84	20.405	
2,300.0	2,270.9	2,302.8	2,295.1	7.8	5.5	-172.33	-108.5	27.6	210.4	200.0	10.35	20.322	
2,400.0	2,368.6	2,402.4	2,393.8	8.3	5.8	-171.96	-120.3	30.3	220.0	209.1	10.87	20.243	
2,500.0	2,466.4	2,501.9	2,492.6	8.7	6.1	-171.63	-132.2	32.9	229.6	218.2	11.38	20.166	
2,600.0	2,564.1	2,601.4	2,591.4	9.2	6.4	-171.32	-144.1	35.5	239.2	227.3	11.90	20.093	
2,700.0	2,661.9	2,701.0	2,690.2	9.7	6.7	-171.03	-156.0	38.2	248.8	236.4	12.43	20.023	
2,800.0	2,759.6	2,800.5	2,789.0	10.1	7.0	-170.77	-167.9	40.8	258.4	245.5	12.95	19.956	
2,900.0	2,857.3	2,900.0	2,887.8	10.6	7.3	-170.52	-179.8	43.4	268.0	254.6	13.47	19.892	
3,000.0	2,955.1	2,999.5	2,986.5	11.0	7.6	-170.29	-191.7	46.1	277.7	263.7	14.00	19.831	
3,100.0	3,052.8	3,099.1	3,085.3	11.5	8.0	-170.08	-203.6	48.7	287.3	272.8	14.53	19.773	
3,200.0	3,150.6	3,198.6	3,184.1	11.9	8.3	-169.88	-215.5	51.3	297.0	281.9	15.06	19.717	
3,300.0	3,248.3	3,298.1	3,282.9	12.4	8.6	-169.70	-227.4	53.9	306.6	291.0	15.59	19.664	
3,400.0	3,346.0	3,397.7	3,381.7	12.9	8.9	-169.52	-239.2	56.6	316.2	300.1	16.12	19.614	
3,500.0	3,443.8	3,497.2	3,480.4	13.3	9.2	-169.36	-251.1	59.2	325.9	309.2	16.66	19.566	
3,600.0	3,541.5	3,596.7	3,579.2	13.8	9.6	-169.20	-263.0	61.8	335.5	318.4	17.19	19.519	
3,700.0	3,639.3	3,696.2	3,678.0	14.2	9.9	-169.05	-274.9	64.5	345.2	327.5	17.72	19.475	
3,800.0	3,737.0	3,795.8	3,776.8	14.7	10.2	-168.91	-286.8	67.1	354.9	336.6	18.26	19.433	
3,900.0	3,834.7	3,895.3	3,875.6	15.2	10.5	-168.78	-298.7	69.7	364.5	345.7	18.80	19.392	
4,000.0	3,932.5	3,994.8	3,974.3	15.6	10.8	-168.66	-310.6	72.4	374.2	354.8	19.33	19.354	
4,100.0	4,030.2	4,094.4	4,073.1	16.1	11.2	-168.54	-322.5	75.0	383.8	364.0	19.87	19.317	
4,200.0	4,127.9	4,193.9	4,171.9	16.6	11.5	-168.43	-334.4	77.6	393.5	373.1	20.41	19.281	
4,300.0	4,225.7	4,293.4	4,270.7	17.0	11.8	-168.32	-346.3	80.2	403.2	382.2	20.95	19.247	
4,400.0	4,323.4	4,392.9	4,369.5	17.5	12.1	-168.22	-358.2	82.9	412.8	391.3	21.49	19.214	
4,500.0	4,421.2	4,492.5	4,468.3	17.9	12.4	-168.12	-370.0	85.5	422.5	400.5	22.03	19.182	
4,600.0	4,518.9	4,592.0	4,567.0	18.4	12.8	-168.03	-381.9	88.1	432.2	409.6	22.57	19.152	
4,700.0	4,616.6	4,691.5	4,665.8	18.9	13.1	-167.94	-393.8	90.8	441.8	418.7	23.11	19.122	
4,800.0	4,714.4	4,791.1	4,764.6	19.3	13.4	-167.85	-405.7	93.4	451.5	427.9	23.65	19.094	
4,900.0	4,812.1	4,890.6	4,863.4	19.8	13.7	-167.77	-417.6	96.0	461.2	437.0	24.19	19.067	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Rio-LA 6F-434
<b>Project:</b>	SEC.6-T1S-R67W	<b>TVD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Reference Site:</b>	Rio-LA 1S67W6E Pad Sec.6-T1S-R67W	<b>MD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Rio-LA 6F-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (8-4-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,000.0	4,909.9	4,990.1	4,962.2	20.2	14.1	-167.69	-429.5	98.7	470.8	446.1	24.73	19.041		
5,100.0	5,007.6	5,089.7	5,060.9	20.7	14.4	-167.62	-441.4	101.3	480.5	455.3	25.27	19.016		
5,200.0	5,105.3	5,187.8	5,158.3	21.2	14.7	-167.55	-453.1	103.9	490.2	464.4	25.81	18.996		
5,300.0	5,203.1	5,273.7	5,243.8	21.6	14.9	-167.56	-461.8	105.8	501.5	475.3	26.26	19.098		
5,400.0	5,300.8	5,358.9	5,328.8	22.1	15.0	-167.70	-468.1	107.2	515.5	488.8	26.69	19.316		
5,495.6	5,394.3	5,439.8	5,409.5	22.5	15.2	-167.93	-471.7	108.0	531.4	504.3	27.08	19.625		
5,500.0	5,398.6	5,443.5	5,413.2	22.6	15.2	-167.95	-471.8	108.0	532.2	505.1	27.10	19.640		
5,600.0	5,496.7	5,527.4	5,497.2	22.9	15.3	-168.32	-473.1	108.3	549.7	522.2	27.47	20.009		
5,700.0	5,595.4	5,625.7	5,595.4	23.1	15.5	-168.70	-473.1	108.3	565.2	537.4	27.83	20.311		
5,800.0	5,694.6	5,724.9	5,694.6	23.3	15.6	-168.99	-473.1	108.3	577.4	549.2	28.15	20.513		
5,900.0	5,794.2	5,824.5	5,794.2	23.5	15.8	-169.19	-473.1	108.3	586.1	557.7	28.43	20.614		
6,000.0	5,894.1	5,924.3	5,894.1	23.7	15.9	-169.31	-473.1	108.3	591.5	562.8	28.69	20.617		
6,106.0	6,000.0	6,030.3	6,000.0	23.8	16.1	10.81	-473.1	108.3	593.4	554.2	39.24	15.120		
6,200.0	6,094.0	6,124.3	6,094.0	23.9	16.2	10.81	-473.1	108.3	593.4	553.9	39.49	15.026		
6,300.0	6,194.0	6,224.3	6,194.0	24.0	16.4	10.81	-473.1	108.3	593.4	553.7	39.74	14.932		
6,400.0	6,294.0	6,324.3	6,294.0	24.1	16.5	10.81	-473.1	108.3	593.4	553.4	39.99	14.838		
6,500.0	6,394.0	6,424.3	6,394.0	24.2	16.7	10.81	-473.1	108.3	593.4	553.2	40.25	14.744		
6,600.0	6,494.0	6,524.3	6,494.0	24.3	16.8	10.81	-473.1	108.3	593.4	552.9	40.50	14.650		
6,700.0	6,594.0	6,624.3	6,594.0	24.4	17.0	10.81	-473.1	108.3	593.4	552.6	40.76	14.557		
6,800.0	6,694.0	6,724.3	6,694.0	24.5	17.1	10.81	-473.1	108.3	593.4	552.4	41.03	14.463		
6,900.0	6,794.0	6,824.3	6,794.0	24.6	17.3	10.81	-473.1	108.3	593.4	552.1	41.30	14.369		
7,000.0	6,894.0	6,924.8	6,894.5	24.7	17.4	10.81	-473.1	108.3	593.4	551.8	41.57	14.276		
7,100.0	6,994.0	7,040.8	7,010.1	24.8	17.6	9.93	-473.1	99.0	591.9	550.0	41.95	14.112		
7,200.0	7,094.0	7,151.7	7,117.9	24.9	17.8	7.52	-473.1	74.0	588.4	546.0	42.41	13.874		
7,225.1	7,119.2	7,178.2	7,143.1	25.0	17.8	6.72	-473.1	65.7	587.4	544.9	42.53	13.812		
7,250.0	7,144.0	7,204.0	7,167.3	25.0	17.8	95.96	-473.1	56.7	586.4	554.0	32.43	18.083		
7,300.0	7,193.9	7,254.9	7,214.2	25.1	17.9	94.44	-473.1	36.8	584.8	552.3	32.52	17.983		
7,350.0	7,243.5	7,304.7	7,258.6	25.1	18.0	92.91	-473.1	14.3	583.7	551.1	32.64	17.886		
7,400.0	7,292.5	7,353.3	7,300.5	25.2	18.0	91.37	-473.1	-10.4	583.1	550.3	32.78	17.785		
7,445.1	7,336.1	7,396.3	7,336.1	25.2	18.1	90.00	-473.1	-34.5	582.9	549.9	32.96	17.686		
7,450.0	7,340.8	7,401.0	7,339.9	25.3	18.1	89.85	-473.1	-37.2	582.9	549.9	32.98	17.676		
7,500.0	7,388.2	7,447.6	7,376.8	25.3	18.2	88.34	-473.1	-65.7	583.1	549.9	33.22	17.553		
7,550.0	7,434.3	7,493.5	7,411.3	25.4	18.2	86.85	-473.1	-95.9	583.8	550.3	33.53	17.414		
7,600.0	7,479.2	7,538.5	7,443.4	25.5	18.3	85.38	-473.1	-127.4	585.0	551.1	33.89	17.259		
7,650.0	7,522.5	7,582.7	7,473.0	25.6	18.4	83.94	-473.1	-160.3	586.5	552.2	34.32	17.089		
7,700.0	7,564.0	7,626.3	7,500.3	25.6	18.5	82.53	-473.1	-194.2	588.3	553.5	34.80	16.904		
7,750.0	7,603.7	7,669.2	7,525.2	25.7	18.7	81.17	-473.1	-229.1	590.5	555.1	35.34	16.707		
7,800.0	7,641.3	7,711.5	7,547.9	25.8	18.9	79.84	-473.1	-264.9	592.9	557.0	35.93	16.501		
7,850.0	7,676.7	7,750.0	7,566.7	26.0	19.2	78.65	-473.1	-298.4	595.6	559.0	36.53	16.304		
7,900.0	7,709.6	7,794.6	7,586.4	26.1	19.6	77.34	-473.1	-338.4	598.4	561.1	37.26	16.061		
7,950.0	7,740.1	7,835.4	7,602.4	26.3	20.0	76.17	-473.1	-376.0	601.4	563.4	37.99	15.828		
8,000.0	7,767.8	7,875.8	7,616.2	26.5	20.5	75.06	-473.1	-414.0	604.4	565.6	38.77	15.589		
8,050.0	7,792.8	7,915.9	7,627.8	26.7	21.1	74.01	-473.1	-452.3	607.5	567.9	39.59	15.346		
8,100.0	7,815.0	7,955.6	7,637.4	26.9	21.7	73.02	-473.1	-490.8	610.6	570.1	40.44	15.097		
8,150.0	7,834.1	7,994.9	7,644.9	27.3	22.4	72.10	-473.1	-529.4	613.6	572.3	41.35	14.841		
8,200.0	7,850.2	8,034.0	7,650.4	27.6	23.1	71.25	-473.1	-568.1	616.6	574.3	42.30	14.578		
8,250.0	7,863.1	8,072.8	7,653.8	28.0	23.8	70.46	-473.1	-606.8	619.4	576.2	43.29	14.310		
8,300.0	7,872.9	8,111.4	7,655.3	28.5	24.5	69.74	-473.1	-645.3	622.2	577.8	44.32	14.038		
8,350.0	7,879.4	8,157.0	7,655.2	29.1	25.4	69.06	-473.1	-690.9	624.5	579.0	45.54	13.713		
8,400.0	7,882.7	8,206.8	7,655.0	29.8	26.5	68.68	-473.1	-740.8	625.8	578.8	46.97	13.323		
8,421.5	7,883.1	8,228.3	7,654.9	30.1	26.9	68.62	-473.1	-762.3	625.9	578.3	47.65	13.136		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Rio-LA 6F-434
<b>Project:</b>	SEC.6-T1S-R67W	<b>TVD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Reference Site:</b>	Rio-LA 1S67W6E Pad Sec.6-T1S-R67W	<b>MD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Rio-LA 6F-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (8-4-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
8,500.0	7,883.5	8,306.8	7,654.5	31.2	28.6	68.56	-473.1	-840.8	626.2	575.5	50.76	12.337	
8,600.0	7,883.9	8,406.8	7,654.1	33.0	30.9	68.48	-473.1	-940.7	626.6	571.6	54.92	11.410	
8,700.0	7,884.4	8,506.8	7,653.6	34.9	33.2	68.40	-473.1	-1,040.7	626.9	567.7	59.24	10.583	
8,800.0	7,884.9	8,606.8	7,653.1	36.9	35.6	68.32	-473.1	-1,140.7	627.3	563.6	63.69	9.849	
8,900.0	7,885.3	8,706.8	7,652.6	39.1	38.1	68.24	-473.1	-1,240.7	627.6	559.4	68.24	9.197	
9,000.0	7,885.8	8,806.8	7,652.2	41.3	40.6	68.16	-473.1	-1,340.7	628.0	555.1	72.88	8.616	
9,100.0	7,886.3	8,906.8	7,651.7	43.7	43.2	68.08	-473.1	-1,440.7	628.3	550.7	77.59	8.098	
9,200.0	7,886.8	9,006.8	7,651.2	46.1	45.7	68.00	-473.1	-1,540.7	628.7	546.3	82.34	7.634	
9,300.0	7,887.2	9,106.8	7,650.8	48.5	48.3	67.92	-473.1	-1,640.7	629.0	541.9	87.15	7.218	
9,400.0	7,887.7	9,206.8	7,650.3	51.0	51.0	67.84	-473.1	-1,740.7	629.4	537.4	91.99	6.842	
9,500.0	7,888.2	9,306.8	7,649.8	53.5	53.6	67.76	-473.1	-1,840.7	629.7	532.9	96.86	6.501	
9,600.0	7,888.6	9,406.8	7,649.3	56.1	56.3	67.68	-473.1	-1,940.7	630.1	528.3	101.76	6.192	
9,700.0	7,889.1	9,506.8	7,648.9	58.7	58.9	67.60	-473.1	-2,040.7	630.4	523.8	106.67	5.910	
9,800.0	7,889.6	9,606.8	7,648.4	61.3	61.6	67.52	-473.1	-2,140.7	630.8	519.2	111.61	5.652	
9,900.0	7,890.1	9,706.8	7,647.9	63.9	64.3	67.44	-473.1	-2,240.7	631.2	514.6	116.56	5.415	
10,000.0	7,890.5	9,806.7	7,647.5	66.5	67.0	67.36	-473.1	-2,340.7	631.5	510.0	121.52	5.197	
10,100.0	7,891.0	9,906.7	7,647.0	69.2	69.7	67.28	-473.1	-2,440.7	631.9	505.4	126.49	4.996	
10,200.0	7,891.5	10,006.7	7,646.5	71.8	72.4	67.21	-473.1	-2,540.7	632.2	500.8	131.46	4.809	
10,300.0	7,891.9	10,106.7	7,646.0	74.5	75.2	67.13	-473.1	-2,640.7	632.6	496.2	136.45	4.636	
10,400.0	7,892.4	10,206.7	7,645.6	77.2	77.9	67.05	-473.1	-2,740.6	633.0	491.5	141.44	4.475	
10,500.0	7,892.9	10,306.7	7,645.1	79.9	80.6	66.97	-473.1	-2,840.6	633.3	486.9	146.43	4.325	
10,600.0	7,893.4	10,406.7	7,644.6	82.6	83.4	66.89	-473.1	-2,940.6	633.7	482.3	151.43	4.185	
10,700.0	7,893.8	10,506.7	7,644.2	85.3	86.1	66.81	-473.1	-3,040.6	634.1	477.7	156.43	4.054	
10,800.0	7,894.3	10,606.7	7,643.7	88.0	88.9	66.73	-473.1	-3,140.6	634.5	473.0	161.43	3.930	
10,900.0	7,894.8	10,706.7	7,643.2	90.7	91.6	66.66	-473.1	-3,240.6	634.8	468.4	166.43	3.814	
11,000.0	7,895.2	10,806.7	7,642.7	93.4	94.4	66.58	-473.1	-3,340.6	635.2	463.8	171.43	3.705	
11,100.0	7,895.7	10,906.7	7,642.3	96.1	97.1	66.50	-473.1	-3,440.6	635.6	459.2	176.43	3.603	
11,200.0	7,896.2	11,006.7	7,641.8	98.9	99.9	66.42	-473.1	-3,540.6	636.0	454.5	181.43	3.505	
11,300.0	7,896.7	11,106.7	7,641.3	101.6	102.7	66.34	-473.1	-3,640.6	636.3	449.9	186.42	3.413	
11,400.0	7,897.1	11,206.7	7,640.9	104.4	105.4	66.27	-473.1	-3,740.6	636.7	445.3	191.42	3.326	
11,500.0	7,897.6	11,306.7	7,640.4	107.1	108.2	66.19	-473.1	-3,840.6	637.1	440.7	196.41	3.244	
11,600.0	7,898.1	11,406.7	7,639.9	109.8	111.0	66.11	-473.1	-3,940.6	637.5	436.1	201.41	3.165	
11,700.0	7,898.5	11,506.7	7,639.4	112.6	113.7	66.03	-473.1	-4,040.6	637.9	431.5	206.40	3.090	
11,800.0	7,899.0	11,606.7	7,639.0	115.3	116.5	65.96	-473.1	-4,140.6	638.2	426.9	211.38	3.019	
11,900.0	7,899.5	11,706.7	7,638.5	118.1	119.3	65.88	-473.1	-4,240.6	638.6	422.3	216.37	2.952	
12,000.0	7,900.0	11,806.7	7,638.0	120.9	122.0	65.80	-473.1	-4,340.6	639.0	417.7	221.35	2.887	
12,100.0	7,900.4	11,906.7	7,637.6	123.6	124.8	65.73	-473.1	-4,440.6	639.4	413.1	226.32	2.825	
12,200.0	7,900.9	12,006.7	7,637.1	126.4	127.6	65.65	-473.1	-4,540.5	639.8	408.5	231.30	2.766	
12,300.0	7,901.4	12,106.6	7,636.6	129.1	130.4	65.57	-473.1	-4,640.5	640.2	403.9	236.27	2.710	
12,400.0	7,901.8	12,206.6	7,636.1	131.9	133.2	65.49	-473.1	-4,740.5	640.6	399.3	241.23	2.655	
12,500.0	7,902.3	12,306.6	7,635.7	134.7	135.9	65.42	-473.1	-4,840.5	641.0	394.8	246.19	2.603	
12,600.0	7,902.8	12,406.6	7,635.2	137.4	138.7	65.34	-473.1	-4,940.5	641.3	390.2	251.15	2.554	
12,645.5	7,903.0	12,450.4	7,635.0	138.7	139.9	65.31	-473.1	-4,984.3	641.5	388.2	253.36	2.532 SF	

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Rio-LA 6F-434
<b>Project:</b>	SEC.6-T1S-R67W	<b>TVD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Reference Site:</b>	Rio-LA 1S67W6E Pad Sec.6-T1S-R67W	<b>MD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Rio-LA 6F-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (8-4-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-3.67	43.7	-2.8	43.8				
100.0	100.0	100.0	100.0	0.1	0.1	-3.67	43.7	-2.8	43.8	43.6	0.22	194.925	
200.0	200.0	200.0	200.0	0.3	0.3	-3.67	43.7	-2.8	43.8	43.1	0.67	64.975 CC, ES	
300.0	300.0	300.0	300.0	0.5	0.6	176.24	43.7	-2.8	44.7	43.6	1.10	40.452	
400.0	400.0	400.0	400.0	0.7	0.8	176.45	43.7	-2.8	47.3	45.8	1.53	30.825	
500.0	499.9	499.9	499.9	1.0	1.0	176.75	43.7	-2.8	51.6	49.7	1.98	26.122	
600.0	599.7	599.7	599.7	1.2	1.2	177.09	43.7	-2.8	57.7	55.3	2.43	23.802	
700.0	699.4	699.4	699.4	1.4	1.5	177.43	43.7	-2.8	65.6	62.7	2.88	22.786	
800.0	798.9	798.9	798.9	1.7	1.7	177.76	43.7	-2.8	75.2	71.8	3.33	22.555	
900.0	898.3	898.3	898.3	2.0	1.9	178.05	43.7	-2.8	86.5	82.7	3.79	22.829	
1,000.0	997.4	997.4	997.4	2.3	2.1	178.30	43.7	-2.8	99.5	95.3	4.24	23.446	
1,100.0	1,096.3	1,096.3	1,096.3	2.6	2.4	178.51	43.7	-2.8	114.3	109.6	4.70	24.306	
1,200.0	1,194.9	1,194.9	1,194.9	3.0	2.6	178.70	43.7	-2.8	130.8	125.6	5.16	25.342	
1,300.0	1,293.3	1,293.3	1,293.3	3.4	2.8	178.85	43.7	-2.8	149.0	143.4	5.62	26.511	
1,400.0	1,391.2	1,391.2	1,391.2	3.8	3.0	178.99	43.7	-2.8	168.9	162.9	6.08	27.780	
1,420.7	1,411.5	1,411.8	1,411.8	3.9	3.1	179.01	43.7	-2.8	173.3	167.1	6.17	28.062	
1,500.0	1,489.0	1,491.8	1,491.8	4.2	3.2	179.19	43.1	-2.5	189.4	182.9	6.53	29.025	
1,600.0	1,586.7	1,593.2	1,593.2	4.7	3.4	179.55	40.7	-1.5	208.3	201.4	6.95	29.972	
1,700.0	1,684.5	1,695.2	1,695.1	5.1	3.6	-179.96	36.8	0.3	225.6	218.2	7.38	30.560	
1,800.0	1,782.2	1,797.7	1,797.4	5.6	3.8	-179.35	31.1	2.8	241.4	233.5	7.83	30.839	
1,900.0	1,879.9	1,900.1	1,899.5	6.0	4.0	-178.65	23.8	6.0	255.5	247.2	8.28	30.868	
2,000.0	1,977.7	1,999.1	1,998.1	6.5	4.2	-177.99	16.2	9.4	269.2	260.4	8.73	30.814	
2,100.0	2,075.4	2,098.1	2,096.8	6.9	4.4	-177.39	8.5	12.8	282.8	273.6	9.20	30.747	
2,200.0	2,173.2	2,197.2	2,195.5	7.4	4.6	-176.84	0.9	16.2	296.5	286.8	9.67	30.672	
2,300.0	2,270.9	2,296.2	2,294.1	7.8	4.9	-176.34	-6.8	19.6	310.2	300.1	10.14	30.593	
2,400.0	2,368.6	2,395.2	2,392.8	8.3	5.1	-175.89	-14.4	23.0	324.0	313.3	10.62	30.508	
2,500.0	2,466.4	2,494.2	2,491.5	8.7	5.3	-175.47	-22.1	26.3	337.7	326.6	11.10	30.423	
2,600.0	2,564.1	2,593.2	2,590.1	9.2	5.6	-175.09	-29.7	29.7	351.5	339.9	11.59	30.336	
2,700.0	2,661.9	2,692.3	2,688.8	9.7	5.8	-174.73	-37.4	33.1	365.3	353.2	12.08	30.250	
2,800.0	2,759.6	2,791.3	2,787.5	10.1	6.1	-174.40	-45.0	36.5	379.1	366.5	12.57	30.164	
2,900.0	2,857.3	2,890.3	2,886.1	10.6	6.3	-174.09	-52.7	39.9	392.9	379.8	13.06	30.080	
3,000.0	2,955.1	2,989.3	2,984.8	11.0	6.6	-173.81	-60.3	43.3	406.7	393.1	13.56	29.997	
3,100.0	3,052.8	3,088.3	3,083.5	11.5	6.8	-173.54	-68.0	46.7	420.5	406.5	14.06	29.916	
3,200.0	3,150.6	3,187.4	3,182.1	11.9	7.1	-173.29	-75.6	50.1	434.4	419.8	14.56	29.837	
3,300.0	3,248.3	3,286.4	3,280.8	12.4	7.3	-173.05	-83.3	53.4	448.2	433.1	15.06	29.761	
3,400.0	3,346.0	3,385.4	3,379.5	12.9	7.6	-172.83	-90.9	56.8	462.1	446.5	15.56	29.687	
3,500.0	3,443.8	3,484.4	3,478.1	13.3	7.8	-172.63	-98.6	60.2	475.9	459.8	16.07	29.615	
3,600.0	3,541.5	3,583.4	3,576.8	13.8	8.1	-172.43	-106.2	63.6	489.8	473.2	16.58	29.545	
3,700.0	3,639.3	3,682.5	3,675.5	14.2	8.4	-172.24	-113.9	67.0	503.7	486.6	17.09	29.477	
3,800.0	3,737.0	3,781.5	3,774.1	14.7	8.6	-172.07	-121.5	70.4	517.5	499.9	17.60	29.412	
3,900.0	3,834.7	3,880.5	3,872.8	15.2	8.9	-171.90	-129.2	73.8	531.4	513.3	18.11	29.349	
4,000.0	3,932.5	3,979.5	3,971.5	15.6	9.1	-171.74	-136.8	77.2	545.3	526.7	18.62	29.288	
4,100.0	4,030.2	4,078.5	4,070.1	16.1	9.4	-171.59	-144.4	80.5	559.2	540.0	19.13	29.229	
4,200.0	4,127.9	4,177.6	4,168.8	16.6	9.7	-171.45	-152.1	83.9	573.1	553.4	19.64	29.172	
4,300.0	4,225.7	4,276.6	4,267.5	17.0	9.9	-171.32	-159.7	87.3	587.0	566.8	20.16	29.116	
4,400.0	4,323.4	4,375.6	4,366.1	17.5	10.2	-171.19	-167.4	90.7	600.9	580.2	20.67	29.063	
4,500.0	4,421.2	4,474.6	4,464.8	17.9	10.5	-171.06	-175.0	94.1	614.8	593.6	21.19	29.011	
4,600.0	4,518.9	4,573.7	4,563.5	18.4	10.7	-170.94	-182.7	97.5	628.7	607.0	21.71	28.962	
4,700.0	4,616.6	4,672.7	4,662.1	18.9	11.0	-170.83	-190.3	100.9	642.6	620.3	22.22	28.913	
4,800.0	4,714.4	4,768.9	4,758.0	19.3	11.3	-170.73	-197.8	104.2	656.5	633.7	22.73	28.875	
4,900.0	4,812.1	4,854.0	4,842.9	19.8	11.5	-170.70	-203.2	106.6	671.6	648.5	23.19	28.964	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Rio-LA 6F-434
<b>Project:</b>	SEC.6-T1S-R67W	<b>TVD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Reference Site:</b>	Rio-LA 1S67W6E Pad Sec.6-T1S-R67W	<b>MD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Rio-LA 6F-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (8-4-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design		Rio-LA 1S67W6E Pad Sec.6-T1S-R67W - Rio-LA 6F-314 - Wellbore #1 - Plan #1 (8-4-15)											Offset Site Error:		0.0 ft
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
5,000.0	4,909.9	4,936.1	4,925.0	20.2	11.6	-170.78	-206.2	107.9	689.2	665.6	23.62	29.180			
5,100.0	5,007.6	5,018.8	5,007.6	20.7	11.8	-170.97	-207.1	108.3	709.1	685.1	24.04	29.496			
5,200.0	5,105.3	5,116.5	5,105.3	21.2	12.0	-171.23	-207.1	108.3	730.0	705.5	24.49	29.813			
5,300.0	5,203.1	5,214.3	5,203.1	21.6	12.1	-171.47	-207.1	108.3	750.9	726.0	24.93	30.126			
5,400.0	5,300.8	5,312.0	5,300.8	22.1	12.3	-171.70	-207.1	108.3	771.8	746.5	25.37	30.426			
5,495.6	5,394.3	5,405.4	5,394.3	22.5	12.5	-171.92	-207.1	108.3	791.9	766.1	25.79	30.702			
5,500.0	5,398.6	5,409.7	5,398.6	22.6	12.5	-171.93	-207.1	108.3	792.8	767.0	25.81	30.712			
5,600.0	5,496.7	5,507.8	5,496.7	22.9	12.7	-172.17	-207.1	108.3	811.9	785.6	26.26	30.913			
5,700.0	5,595.4	5,606.6	5,595.4	23.1	12.8	-172.36	-207.1	108.3	827.6	800.9	26.68	31.019			
5,800.0	5,694.6	5,705.8	5,694.6	23.3	13.0	-172.51	-207.1	108.3	839.9	812.8	27.06	31.036			
5,900.0	5,794.2	5,805.4	5,794.2	23.5	13.2	-172.61	-207.1	108.3	848.7	821.3	27.40	30.970			
6,000.0	5,894.1	5,905.2	5,894.1	23.7	13.4	-172.67	-207.1	108.3	854.1	826.4	27.71	30.824			
6,106.0	6,000.0	6,011.2	6,000.0	23.8	13.6	7.47	-207.1	108.3	856.1	819.0	37.05	23.107			
6,200.0	6,094.0	6,105.2	6,094.0	23.9	13.8	7.47	-207.1	108.3	856.1	818.7	37.33	22.931			
6,300.0	6,194.0	6,205.2	6,194.0	24.0	13.9	7.47	-207.1	108.3	856.1	818.4	37.62	22.757			
6,400.0	6,294.0	6,305.2	6,294.0	24.1	14.1	7.47	-207.1	108.3	856.1	818.2	37.91	22.584			
6,500.0	6,394.0	6,405.2	6,394.0	24.2	14.3	7.47	-207.1	108.3	856.1	817.9	38.20	22.412			
6,600.0	6,494.0	6,505.2	6,494.0	24.3	14.5	7.47	-207.1	108.3	856.1	817.6	38.49	22.240			
6,700.0	6,594.0	6,605.2	6,594.0	24.4	14.7	7.47	-207.1	108.3	856.1	817.3	38.79	22.070			
6,800.0	6,694.0	6,705.2	6,694.0	24.5	14.9	7.47	-207.1	108.3	856.1	817.0	39.09	21.902			
6,900.0	6,794.0	6,805.2	6,794.0	24.6	15.1	7.47	-207.1	108.3	856.1	816.7	39.39	21.734			
7,000.0	6,894.0	6,905.2	6,894.0	24.7	15.3	7.47	-207.1	108.3	856.1	816.4	39.69	21.568			
7,100.0	6,994.0	7,005.2	6,994.0	24.8	15.5	7.47	-207.1	108.3	856.1	816.1	40.00	21.403			
7,200.0	7,094.0	7,121.0	7,109.4	24.9	15.7	6.91	-207.1	99.9	855.1	814.8	40.36	21.190			
7,225.1	7,119.2	7,149.6	7,137.6	25.0	15.8	6.60	-207.1	95.1	854.6	814.2	40.45	21.127			
7,250.0	7,144.0	7,177.6	7,165.1	25.0	15.8	96.29	-207.1	89.5	854.1	822.0	32.12	26.591			
7,300.0	7,193.9	7,233.3	7,218.8	25.1	15.9	95.65	-207.1	75.2	853.1	820.8	32.28	26.431			
7,350.0	7,243.5	7,288.1	7,270.6	25.1	16.0	94.99	-207.1	57.4	852.2	819.7	32.42	26.281			
7,400.0	7,292.5	7,342.0	7,320.2	25.2	16.0	94.31	-207.1	36.3	851.3	818.7	32.58	26.133			
7,450.0	7,340.8	7,395.1	7,367.5	25.3	16.1	93.62	-207.1	12.1	850.6	817.8	32.74	25.978			
7,500.0	7,388.2	7,447.3	7,412.3	25.3	16.2	92.92	-207.1	-14.8	849.9	817.0	32.93	25.807			
7,550.0	7,434.3	7,498.8	7,454.4	25.4	16.2	92.21	-207.1	-44.2	849.5	816.3	33.17	25.610			
7,600.0	7,479.2	7,549.4	7,494.0	25.5	16.3	91.50	-207.1	-75.9	849.1	815.6	33.46	25.379			
7,650.0	7,522.5	7,599.4	7,530.8	25.6	16.4	90.78	-207.1	-109.7	848.9	815.1	33.81	25.105			
7,700.0	7,564.0	7,648.6	7,564.8	25.6	16.6	90.07	-207.1	-145.2	848.8	814.5	34.25	24.784			
7,704.8	7,568.0	7,653.3	7,568.0	25.7	16.7	90.00	-207.1	-148.7	848.8	814.5	34.30	24.748			
7,750.0	7,603.7	7,697.2	7,596.1	25.7	16.9	89.36	-207.1	-182.3	848.8	814.1	34.77	24.411			
7,800.0	7,641.3	7,745.1	7,624.6	25.8	17.3	88.66	-207.1	-220.9	849.0	813.6	35.40	23.985			
7,850.0	7,676.7	7,792.4	7,650.3	26.0	17.8	87.97	-207.1	-260.6	849.4	813.2	36.13	23.510			
7,900.0	7,709.6	7,839.1	7,673.2	26.1	18.3	87.29	-207.1	-301.3	849.8	812.8	36.97	22.989			
7,950.0	7,740.1	7,885.3	7,693.4	26.3	18.8	86.62	-207.1	-342.8	850.3	812.4	37.91	22.428			
8,000.0	7,767.8	7,931.0	7,710.8	26.5	19.5	85.97	-207.1	-385.0	851.0	812.0	38.97	21.837			
8,050.0	7,792.8	7,976.2	7,725.6	26.7	20.1	85.34	-207.1	-427.7	851.7	811.6	40.13	21.224			
8,100.0	7,815.0	8,020.9	7,737.7	26.9	20.9	84.73	-207.1	-470.8	852.5	811.1	41.39	20.598			
8,150.0	7,834.1	8,065.3	7,747.2	27.3	21.6	84.14	-207.1	-514.1	853.4	810.7	42.74	19.968			
8,200.0	7,850.2	8,109.2	7,754.0	27.6	22.4	83.57	-207.1	-557.5	854.3	810.1	44.17	19.342			
8,250.0	7,863.1	8,150.0	7,758.2	28.0	23.2	83.06	-207.1	-598.1	855.3	809.6	45.62	18.748			
8,300.0	7,872.9	8,196.1	7,760.3	28.5	24.1	82.53	-207.1	-644.1	856.2	809.0	47.24	18.126			
8,350.0	7,879.4	8,243.4	7,760.2	29.1	25.1	82.05	-207.1	-691.4	857.1	808.2	48.96	17.508			
8,400.0	7,882.7	8,293.2	7,760.0	29.8	26.1	81.78	-207.1	-741.3	857.6	806.8	50.80	16.883			
8,421.5	7,883.1	8,314.7	7,759.9	30.1	26.6	81.74	-207.1	-762.8	857.7	806.1	51.63	16.613			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Rio-LA 6F-434
<b>Project:</b>	SEC.6-T1S-R67W	<b>TVD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Reference Site:</b>	Rio-LA 1S67W6E Pad Sec.6-T1S-R67W	<b>MD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Rio-LA 6F-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (8-4-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference														
Offset				Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
8,500.0	7,883.5	8,393.2	7,759.5	31.2	28.3	81.69	-207.1	-841.2	857.8	802.9	54.92	15.618		
8,600.0	7,883.9	8,493.2	7,759.0	33.0	30.6	81.63	-207.1	-941.2	857.9	798.6	59.32	14.463		
8,700.0	7,884.4	8,593.2	7,758.6	34.9	33.0	81.57	-207.1	-1,041.2	858.1	794.2	63.89	13.430		
8,800.0	7,884.9	8,693.2	7,758.1	36.9	35.4	81.50	-207.1	-1,141.2	858.2	789.6	68.61	12.509		
8,900.0	7,885.3	8,793.2	7,757.6	39.1	37.9	81.44	-207.1	-1,241.2	858.3	784.9	73.44	11.688		
9,000.0	7,885.8	8,893.2	7,757.2	41.3	40.4	81.38	-207.1	-1,341.2	858.5	780.1	78.36	10.955		
9,100.0	7,886.3	8,993.2	7,756.7	43.7	43.0	81.32	-207.1	-1,441.2	858.6	775.3	83.36	10.300		
9,200.0	7,886.8	9,093.2	7,756.2	46.1	45.6	81.26	-207.1	-1,541.2	858.8	770.4	88.42	9.712		
9,300.0	7,887.2	9,193.2	7,755.7	48.5	48.2	81.19	-207.1	-1,641.2	858.9	765.4	93.54	9.183		
9,400.0	7,887.7	9,293.2	7,755.3	51.0	50.8	81.13	-207.1	-1,741.2	859.1	760.4	98.69	8.704		
9,500.0	7,888.2	9,393.2	7,754.8	53.5	53.5	81.07	-207.1	-1,841.2	859.2	755.3	103.89	8.270		
9,600.0	7,888.6	9,493.2	7,754.3	56.1	56.1	81.01	-207.1	-1,941.2	859.4	750.2	109.11	7.876		
9,700.0	7,889.1	9,593.2	7,753.9	58.7	58.8	80.95	-207.1	-2,041.2	859.5	745.1	114.37	7.515		
9,800.0	7,889.6	9,693.2	7,753.4	61.3	61.5	80.88	-207.1	-2,141.2	859.7	740.0	119.64	7.185		
9,900.0	7,890.1	9,793.1	7,752.9	63.9	64.2	80.82	-207.1	-2,241.2	859.8	734.9	124.94	6.882		
10,000.0	7,890.5	9,893.1	7,752.4	66.5	66.9	80.76	-207.1	-2,341.2	860.0	729.7	130.25	6.602		
10,100.0	7,891.0	9,993.1	7,752.0	69.2	69.6	80.70	-207.1	-2,441.2	860.1	724.5	135.58	6.344		
10,200.0	7,891.5	10,093.1	7,751.5	71.8	72.3	80.64	-207.1	-2,541.2	860.3	719.3	140.92	6.105		
10,300.0	7,891.9	10,193.1	7,751.0	74.5	75.1	80.57	-207.1	-2,641.1	860.4	714.1	146.27	5.882		
10,400.0	7,892.4	10,293.1	7,750.6	77.2	77.8	80.51	-207.1	-2,741.1	860.6	708.9	151.63	5.675		
10,500.0	7,892.9	10,393.1	7,750.1	79.9	80.5	80.45	-207.1	-2,841.1	860.7	703.7	157.00	5.482		
10,600.0	7,893.4	10,493.1	7,749.6	82.6	83.3	80.39	-207.1	-2,941.1	860.9	698.5	162.38	5.302		
10,700.0	7,893.8	10,593.1	7,749.1	85.3	86.0	80.33	-207.1	-3,041.1	861.0	693.3	167.76	5.132		
10,800.0	7,894.3	10,693.1	7,748.7	88.0	88.8	80.26	-207.1	-3,141.1	861.2	688.0	173.15	4.974		
10,900.0	7,894.8	10,793.1	7,748.2	90.7	91.5	80.20	-207.1	-3,241.1	861.4	682.8	178.55	4.824		
11,000.0	7,895.2	10,893.1	7,747.7	93.4	94.3	80.14	-207.1	-3,341.1	861.5	677.6	183.95	4.683		
11,100.0	7,895.7	10,993.1	7,747.3	96.1	97.1	80.08	-207.1	-3,441.1	861.7	672.3	189.35	4.551		
11,200.0	7,896.2	11,093.1	7,746.8	98.9	99.8	80.02	-207.1	-3,541.1	861.8	667.1	194.76	4.425		
11,300.0	7,896.7	11,193.1	7,746.3	101.6	102.6	79.96	-207.1	-3,641.1	862.0	661.8	200.17	4.306		
11,400.0	7,897.1	11,293.1	7,745.8	104.4	105.4	79.89	-207.1	-3,741.1	862.2	656.6	205.58	4.194		
11,500.0	7,897.6	11,393.1	7,745.4	107.1	108.1	79.83	-207.1	-3,841.1	862.3	651.3	210.99	4.087		
11,600.0	7,898.1	11,493.1	7,744.9	109.8	110.9	79.77	-207.1	-3,941.1	862.5	646.1	216.41	3.985		
11,700.0	7,898.5	11,593.1	7,744.4	112.6	113.7	79.71	-207.1	-4,041.1	862.7	640.8	221.83	3.889		
11,800.0	7,899.0	11,693.1	7,744.0	115.3	116.4	79.65	-207.1	-4,141.1	862.8	635.6	227.24	3.797		
11,900.0	7,899.5	11,793.1	7,743.5	118.1	119.2	79.59	-207.1	-4,241.1	863.0	630.3	232.66	3.709		
12,000.0	7,900.0	11,893.1	7,743.0	120.9	122.0	79.52	-207.1	-4,341.1	863.2	625.1	238.08	3.626		
12,100.0	7,900.4	11,993.0	7,742.5	123.6	124.8	79.46	-207.1	-4,441.0	863.3	619.8	243.50	3.546		
12,200.0	7,900.9	12,093.0	7,742.1	126.4	127.5	79.40	-207.1	-4,541.0	863.5	614.6	248.92	3.469		
12,300.0	7,901.4	12,193.0	7,741.6	129.1	130.3	79.34	-207.1	-4,641.0	863.7	609.3	254.35	3.396		
12,400.0	7,901.8	12,293.0	7,741.1	131.9	133.1	79.28	-207.1	-4,741.0	863.9	604.1	259.77	3.326		
12,500.0	7,902.3	12,393.0	7,740.7	134.7	135.9	79.22	-207.1	-4,841.0	864.0	598.9	265.19	3.258		
12,600.0	7,902.8	12,493.0	7,740.2	137.4	138.7	79.16	-207.1	-4,941.0	864.2	593.6	270.61	3.194		
12,645.5	7,903.0	12,533.5	7,740.0	138.7	139.8	79.13	-207.1	-4,981.5	864.3	591.4	272.94	3.167 SF		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Rio-LA 6F-434
<b>Project:</b>	SEC.6-T1S-R67W	<b>TVD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Reference Site:</b>	Rio-LA 1S67W6E Pad Sec.6-T1S-R67W	<b>MD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Rio-LA 6F-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (8-4-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference														
Offset				Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	0.00	14.6	0.0	14.6	14.6	0.00	N/A		
100.0	100.0	100.0	100.0	0.1	0.1	0.00	14.6	0.0	14.6	14.4	0.22	64.848		
200.0	200.0	200.0	200.0	0.3	0.3	0.00	14.6	0.0	14.6	13.9	0.67	21.616 CC, ES		
300.0	300.0	300.0	300.0	0.5	0.6	179.85	14.6	0.0	15.4	14.3	1.10	13.985		
400.0	400.0	400.0	400.0	0.7	0.8	179.87	14.6	0.0	18.1	16.5	1.53	11.774		
500.0	499.9	500.2	500.2	1.0	1.0	-179.80	13.7	0.1	21.6	19.6	1.95	11.057		
600.0	599.7	600.6	600.5	1.2	1.2	-179.03	11.1	0.5	25.1	22.7	2.36	10.632		
700.0	699.4	701.0	700.8	1.4	1.4	-177.97	6.7	1.0	28.6	25.8	2.78	10.277		
800.0	798.9	801.4	801.1	1.7	1.6	-176.73	0.6	1.8	32.2	28.9	3.22	9.987		
900.0	898.3	902.0	901.3	2.0	1.8	-175.37	-7.2	2.9	35.8	32.1	3.67	9.750		
1,000.0	997.4	1,002.5	1,001.4	2.3	2.1	-173.91	-16.8	4.1	39.4	35.3	4.12	9.552		
1,100.0	1,096.3	1,103.2	1,101.4	2.6	2.4	-172.39	-28.1	5.6	43.1	38.5	4.59	9.383		
1,200.0	1,194.9	1,203.8	1,201.2	3.0	2.7	-170.83	-41.2	7.3	46.9	41.8	5.07	9.234		
1,300.0	1,293.3	1,304.6	1,300.8	3.4	3.0	-169.24	-56.1	9.3	50.7	45.1	5.57	9.097		
1,400.0	1,391.2	1,405.3	1,400.1	3.8	3.3	-167.64	-72.6	11.5	54.6	48.5	6.09	8.970		
1,420.7	1,411.5	1,426.0	1,420.5	3.9	3.4	-167.34	-76.2	11.9	55.5	49.3	6.20	8.954		
1,500.0	1,489.0	1,505.2	1,498.5	4.2	3.7	-166.30	-89.8	13.7	59.1	52.4	6.62	8.917		
1,600.0	1,586.7	1,605.1	1,596.9	4.7	4.1	-165.15	-106.9	16.0	63.6	56.4	7.17	8.865		
1,700.0	1,684.5	1,705.0	1,695.3	5.1	4.4	-164.15	-124.0	18.2	68.1	60.4	7.73	8.810		
1,800.0	1,782.2	1,804.8	1,793.7	5.6	4.8	-163.28	-141.2	20.5	72.7	64.4	8.30	8.755		
1,900.0	1,879.9	1,904.7	1,892.1	6.0	5.2	-162.51	-158.3	22.7	77.2	68.4	8.88	8.701		
2,000.0	1,977.7	2,004.6	1,990.4	6.5	5.6	-161.83	-175.4	25.0	81.8	72.4	9.46	8.648		
2,100.0	2,075.4	2,104.5	2,088.8	6.9	6.0	-161.22	-192.5	27.2	86.4	76.4	10.05	8.598		
2,200.0	2,173.2	2,204.4	2,187.2	7.4	6.4	-160.67	-209.7	29.5	91.0	80.4	10.64	8.550		
2,300.0	2,270.9	2,304.3	2,285.6	7.8	6.8	-160.18	-226.8	31.7	95.6	84.4	11.24	8.504		
2,400.0	2,368.6	2,404.2	2,384.0	8.3	7.1	-159.73	-243.9	34.0	100.2	88.4	11.85	8.461		
2,500.0	2,466.4	2,504.1	2,482.4	8.7	7.5	-159.32	-261.1	36.3	104.9	92.4	12.45	8.420		
2,600.0	2,564.1	2,604.0	2,580.8	9.2	7.9	-158.94	-278.2	38.5	109.5	96.4	13.06	8.381		
2,700.0	2,661.9	2,703.9	2,679.1	9.7	8.3	-158.59	-295.3	40.8	114.1	100.4	13.67	8.345		
2,800.0	2,759.6	2,803.7	2,777.5	10.1	8.7	-158.28	-312.5	43.0	118.7	104.5	14.29	8.310		
2,900.0	2,857.3	2,903.6	2,875.9	10.6	9.1	-157.98	-329.6	45.3	123.4	108.5	14.91	8.277		
3,000.0	2,955.1	3,003.5	2,974.3	11.0	9.5	-157.71	-346.7	47.5	128.0	112.5	15.52	8.247		
3,100.0	3,052.8	3,103.4	3,072.7	11.5	9.9	-157.45	-363.8	49.8	132.7	116.5	16.14	8.217		
3,200.0	3,150.6	3,203.3	3,171.1	11.9	10.3	-157.22	-381.0	52.0	137.3	120.5	16.77	8.190		
3,300.0	3,248.3	3,303.2	3,269.4	12.4	10.7	-157.00	-398.1	54.3	141.9	124.6	17.39	8.164		
3,400.0	3,346.0	3,403.1	3,367.8	12.9	11.1	-156.79	-415.2	56.5	146.6	128.6	18.01	8.139		
3,500.0	3,443.8	3,503.0	3,466.2	13.3	11.5	-156.59	-432.4	58.8	151.2	132.6	18.64	8.115		
3,600.0	3,541.5	3,602.9	3,564.6	13.8	11.9	-156.41	-449.5	61.0	155.9	136.6	19.26	8.093		
3,700.0	3,639.3	3,702.8	3,663.0	14.2	12.3	-156.24	-466.6	63.3	160.6	140.7	19.89	8.072		
3,800.0	3,737.0	3,802.7	3,761.4	14.7	12.7	-156.08	-483.8	65.5	165.2	144.7	20.52	8.052		
3,900.0	3,834.7	3,902.5	3,859.8	15.2	13.1	-155.92	-500.9	67.8	169.9	148.7	21.15	8.032		
4,000.0	3,932.5	4,002.4	3,958.1	15.6	13.5	-155.78	-518.0	70.1	174.5	152.7	21.78	8.014		
4,100.0	4,030.2	4,102.3	4,056.5	16.1	13.9	-155.64	-535.1	72.3	179.2	156.8	22.41	7.996		
4,200.0	4,127.9	4,202.2	4,154.9	16.6	14.3	-155.51	-552.3	74.6	183.8	160.8	23.04	7.980		
4,300.0	4,225.7	4,302.1	4,253.3	17.0	14.7	-155.38	-569.4	76.8	188.5	164.8	23.67	7.964		
4,400.0	4,323.4	4,402.0	4,351.7	17.5	15.1	-155.27	-586.5	79.1	193.2	168.9	24.30	7.948		
4,500.0	4,421.2	4,501.9	4,450.1	17.9	15.5	-155.15	-603.7	81.3	197.8	172.9	24.93	7.934		
4,600.0	4,518.9	4,601.8	4,548.4	18.4	15.9	-155.05	-620.8	83.6	202.5	176.9	25.57	7.920		
4,700.0	4,616.6	4,701.7	4,646.8	18.9	16.3	-154.94	-637.9	85.8	207.1	180.9	26.20	7.906		
4,800.0	4,714.4	4,801.6	4,745.2	19.3	16.7	-154.84	-655.1	88.1	211.8	185.0	26.83	7.893		
4,900.0	4,812.1	4,901.4	4,843.6	19.8	17.1	-154.75	-672.2	90.3	216.5	189.0	27.47	7.881		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Rio-LA 6F-434
<b>Project:</b>	SEC.6-T1S-R67W	<b>TVD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Reference Site:</b>	Rio-LA 1S67W6E Pad Sec.6-T1S-R67W	<b>MD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Rio-LA 6F-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (8-4-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
5,000.0	4,909.9	5,001.3	4,942.0	20.2	17.5	-154.66	-689.3	92.6	221.1	193.0	28.10	7.869	
5,100.0	5,007.6	5,101.2	5,040.4	20.7	17.9	-154.57	-706.4	94.8	225.8	197.1	28.74	7.858	
5,200.0	5,105.3	5,201.1	5,138.8	21.2	18.3	-154.49	-723.6	97.1	230.5	201.1	29.37	7.847	
5,300.0	5,203.1	5,301.0	5,237.1	21.6	18.7	-154.41	-740.7	99.3	235.1	205.1	30.01	7.836	
5,400.0	5,300.8	5,400.9	5,335.5	22.1	19.1	-154.33	-757.8	101.6	239.8	209.2	30.64	7.826	
5,495.6	5,394.3	5,496.4	5,429.6	22.5	19.5	-154.26	-774.2	103.8	244.3	213.0	31.25	7.816	
5,500.0	5,398.6	5,500.8	5,433.9	22.6	19.5	-154.26	-775.0	103.9	244.5	213.2	31.28	7.816	
5,600.0	5,496.7	5,598.8	5,530.5	22.9	19.9	-154.05	-791.7	106.0	247.5	215.7	31.88	7.765	
5,700.0	5,595.4	5,692.1	5,622.7	23.1	20.1	-153.80	-805.3	107.8	249.5	217.1	32.37	7.708	
5,800.0	5,694.6	5,785.3	5,715.3	23.3	20.3	-153.61	-816.0	109.3	251.0	218.2	32.78	7.658	
5,900.0	5,794.2	5,878.5	5,808.2	23.5	20.5	-153.47	-823.7	110.3	252.1	219.0	33.12	7.612	
6,000.0	5,894.1	5,971.7	5,901.3	23.7	20.6	-153.39	-828.4	110.9	252.8	219.4	33.39	7.572	
6,106.0	6,000.0	6,070.5	6,000.0	23.8	20.8	26.80	-830.1	111.1	253.0	211.7	41.33	6.123	
6,200.0	6,094.0	6,164.5	6,094.0	23.9	20.9	26.80	-830.1	111.1	253.0	211.5	41.56	6.089	
6,300.0	6,194.0	6,264.5	6,194.0	24.0	21.0	26.80	-830.1	111.1	253.0	211.3	41.78	6.057	
6,400.0	6,294.0	6,364.5	6,294.0	24.1	21.1	26.80	-830.1	111.1	253.0	211.0	42.00	6.025	
6,500.0	6,394.0	6,464.5	6,394.0	24.2	21.2	26.80	-830.1	111.1	253.0	210.8	42.23	5.992	
6,600.0	6,494.0	6,564.5	6,494.0	24.3	21.3	26.80	-830.1	111.1	253.0	210.6	42.46	5.960	
6,700.0	6,594.0	6,664.5	6,594.0	24.4	21.5	26.80	-830.1	111.1	253.0	210.4	42.69	5.927	
6,800.0	6,694.0	6,764.5	6,694.0	24.5	21.6	26.80	-830.1	111.1	253.0	210.1	42.93	5.894	
6,900.0	6,794.0	6,864.5	6,794.0	24.6	21.7	26.80	-830.1	111.1	253.0	209.9	43.17	5.862	
7,000.0	6,894.0	6,964.5	6,894.0	24.7	21.8	26.80	-830.1	111.1	253.0	209.6	43.41	5.829	
7,100.0	6,994.0	7,064.5	6,994.0	24.8	21.9	26.80	-830.1	111.1	253.0	209.4	43.66	5.796	
7,200.0	7,094.0	7,164.5	7,109.9	24.9	22.1	25.06	-830.1	102.6	249.8	205.5	44.30	5.639	
7,225.1	7,119.2	7,209.5	7,138.2	25.0	22.1	24.06	-830.1	97.8	248.1	203.5	44.57	5.566	
7,250.0	7,144.0	7,237.6	7,165.7	25.0	22.1	113.06	-830.1	92.1	246.2	210.1	36.12	6.816	
7,300.0	7,193.9	7,293.5	7,219.7	25.1	22.2	110.96	-830.1	77.7	242.5	206.7	35.83	6.769	
7,350.0	7,243.5	7,348.5	7,271.7	25.1	22.3	108.73	-830.1	59.8	239.0	203.5	35.49	6.735	
7,400.0	7,292.5	7,402.6	7,321.4	25.2	22.3	106.39	-830.1	38.5	235.9	200.7	35.16	6.709	
7,450.0	7,340.8	7,455.8	7,368.8	25.3	22.4	103.94	-830.1	14.2	233.0	198.2	34.86	6.684	
7,500.0	7,388.2	7,508.2	7,413.6	25.3	22.4	101.40	-830.1	-12.9	230.6	196.0	34.66	6.655	
7,550.0	7,434.3	7,559.8	7,455.9	25.4	22.5	98.79	-830.1	-42.5	228.7	194.1	34.59	6.611	
7,600.0	7,479.2	7,610.6	7,495.4	25.5	22.5	96.12	-830.1	-74.3	227.2	192.6	34.65	6.557	
7,650.0	7,522.5	7,660.7	7,532.2	25.6	22.6	93.43	-830.1	-108.3	226.3	191.4	34.87	6.489	
7,700.0	7,564.0	7,710.0	7,566.2	25.6	22.7	90.73	-830.1	-144.0	225.9	190.6	35.25	6.409	
7,713.4	7,574.9	7,723.1	7,574.9	25.7	22.7	90.00	-830.1	-153.8	225.9	190.5	35.37	6.385	
7,750.0	7,603.7	7,758.6	7,597.5	25.7	22.8	88.03	-830.1	-181.2	226.0	190.3	35.75	6.322	
7,800.0	7,641.3	7,806.6	7,625.9	25.8	22.9	85.37	-830.1	-219.9	226.6	190.3	36.36	6.234	
7,850.0	7,676.7	7,854.0	7,651.5	26.0	23.0	82.76	-830.1	-259.7	227.8	190.7	37.04	6.150	
7,900.0	7,709.6	7,900.0	7,674.0	26.1	23.2	80.26	-830.1	-299.9	229.3	191.6	37.74	6.076	
7,950.0	7,740.1	7,947.0	7,694.4	26.3	23.4	77.77	-830.1	-342.2	231.3	192.8	38.48	6.011	
8,000.0	7,767.8	7,992.7	7,711.7	26.5	23.7	75.41	-830.1	-384.5	233.7	194.5	39.20	5.962	
8,050.0	7,792.8	8,037.9	7,726.3	26.7	24.0	73.17	-830.1	-427.3	236.3	196.5	39.88	5.927	
8,100.0	7,815.0	8,082.7	7,738.3	26.9	24.4	71.04	-830.1	-470.4	239.3	198.7	40.51	5.905	
8,150.0	7,834.1	8,127.0	7,747.6	27.3	24.9	69.03	-830.1	-513.8	242.4	201.3	41.11	5.896	
8,200.0	7,850.2	8,171.0	7,754.4	27.6	25.4	67.15	-830.1	-557.2	245.6	204.0	41.65	5.897	
8,250.0	7,863.1	8,214.6	7,758.6	28.0	26.0	65.40	-830.1	-600.5	249.0	206.8	42.16	5.905	
8,300.0	7,872.9	8,257.8	7,760.3	28.5	26.7	63.78	-830.1	-643.7	252.3	209.7	42.65	5.917	
8,350.0	7,879.4	8,305.5	7,760.2	29.1	27.5	62.31	-830.1	-691.4	255.4	212.2	43.23	5.908	
8,400.0	7,882.7	8,355.3	7,760.0	29.8	28.4	61.50	-830.1	-741.3	257.0	212.9	44.14	5.824	
8,421.5	7,883.1	8,376.8	7,759.9	30.1	28.8	61.39	-830.1	-762.8	257.3	212.6	44.64	5.763	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Rio-LA 6F-434
<b>Project:</b>	SEC.6-T1S-R67W	<b>TVD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Reference Site:</b>	Rio-LA 1S67W6E Pad Sec.6-T1S-R67W	<b>MD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Rio-LA 6F-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (8-4-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
8,500.0	7,883.5	8,455.3	7,759.5	31.2	30.3	61.25	-830.1	-841.2	257.6	210.1	47.53	5.420		
8,600.0	7,883.9	8,555.3	7,759.1	33.0	32.4	61.06	-830.1	-941.2	258.1	206.7	51.39	5.022		
8,700.0	7,884.4	8,655.3	7,758.6	34.9	34.6	60.88	-830.1	-1,041.2	258.5	203.1	55.40	4.667		
8,800.0	7,884.9	8,755.3	7,758.1	36.9	36.9	60.70	-830.1	-1,141.2	259.0	199.5	59.52	4.351		
8,900.0	7,885.3	8,855.3	7,757.6	39.1	39.3	60.52	-830.1	-1,241.2	259.5	195.7	63.74	4.071		
9,000.0	7,885.8	8,955.3	7,757.2	41.3	41.7	60.33	-830.1	-1,341.2	259.9	191.9	68.02	3.821		
9,100.0	7,886.3	9,055.3	7,756.7	43.7	44.2	60.15	-830.1	-1,441.2	260.4	188.0	72.36	3.599		
9,200.0	7,886.8	9,155.3	7,756.2	46.1	46.7	59.97	-830.1	-1,541.2	260.9	184.1	76.74	3.399		
9,300.0	7,887.2	9,255.3	7,755.8	48.5	49.3	59.80	-830.1	-1,641.2	261.3	180.2	81.15	3.220		
9,400.0	7,887.7	9,355.3	7,755.3	51.0	51.9	59.62	-830.1	-1,741.2	261.8	176.2	85.59	3.059		
9,500.0	7,888.2	9,455.3	7,754.8	53.5	54.5	59.44	-830.1	-1,841.2	262.3	172.2	90.05	2.913		
9,600.0	7,888.6	9,555.3	7,754.3	56.1	57.1	59.26	-830.1	-1,941.2	262.8	168.3	94.52	2.780		
9,700.0	7,889.1	9,655.3	7,753.9	58.7	59.7	59.09	-830.1	-2,041.2	263.3	164.3	99.00	2.659		
9,800.0	7,889.6	9,755.3	7,753.4	61.3	62.4	58.91	-830.1	-2,141.2	263.7	160.3	103.48	2.549		
9,900.0	7,890.1	9,855.3	7,752.9	63.9	65.0	58.74	-830.1	-2,241.2	264.2	156.3	107.97	2.447		
10,000.0	7,890.5	9,955.3	7,752.5	66.5	67.7	58.56	-830.1	-2,341.2	264.7	152.3	112.46	2.354		
10,100.0	7,891.0	10,055.3	7,752.0	69.2	70.4	58.39	-830.1	-2,441.2	265.2	148.3	116.94	2.268		
10,200.0	7,891.5	10,155.2	7,751.5	71.8	73.1	58.21	-830.1	-2,541.2	265.7	144.3	121.42	2.188		
10,300.0	7,891.9	10,255.2	7,751.0	74.5	75.8	58.04	-830.1	-2,641.1	266.2	140.3	125.90	2.114		
10,400.0	7,892.4	10,355.2	7,750.6	77.2	78.5	57.87	-830.1	-2,741.1	266.7	136.3	130.37	2.046		
10,500.0	7,892.9	10,455.2	7,750.1	79.9	81.2	57.70	-830.1	-2,841.1	267.2	132.4	134.84	1.982		
10,600.0	7,893.4	10,555.2	7,749.6	82.6	83.9	57.53	-830.1	-2,941.1	267.7	128.4	139.29	1.922		
10,700.0	7,893.8	10,655.2	7,749.2	85.3	86.7	57.36	-830.1	-3,041.1	268.2	124.5	143.74	1.866		
10,800.0	7,894.3	10,755.2	7,748.7	88.0	89.4	57.19	-830.1	-3,141.1	268.7	120.6	148.18	1.814		
10,900.0	7,894.8	10,855.2	7,748.2	90.7	92.1	57.02	-830.1	-3,241.1	269.2	116.6	152.60	1.764		
11,000.0	7,895.2	10,955.2	7,747.7	93.4	94.9	56.85	-830.1	-3,341.1	269.8	112.7	157.02	1.718		
11,100.0	7,895.7	11,055.2	7,747.3	96.1	97.6	56.69	-830.1	-3,441.1	270.3	108.9	161.42	1.674		
11,200.0	7,896.2	11,155.2	7,746.8	98.9	100.4	56.52	-830.1	-3,541.1	270.8	105.0	165.82	1.633		
11,300.0	7,896.7	11,255.2	7,746.3	101.6	103.1	56.35	-830.1	-3,641.1	271.3	101.1	170.20	1.594		
11,400.0	7,897.1	11,355.2	7,745.9	104.4	105.9	56.19	-830.1	-3,741.1	271.8	97.3	174.56	1.557		
11,500.0	7,897.6	11,455.2	7,745.4	107.1	108.6	56.02	-830.1	-3,841.1	272.4	93.4	178.92	1.522		
11,600.0	7,898.1	11,555.2	7,744.9	109.8	111.4	55.86	-830.1	-3,941.1	272.9	89.6	183.26	1.489 Level 3		
11,700.0	7,898.5	11,655.2	7,744.4	112.6	114.2	55.70	-830.1	-4,041.1	273.4	85.8	187.59	1.458 Level 3		
11,800.0	7,899.0	11,755.2	7,744.0	115.3	116.9	55.53	-830.1	-4,141.1	274.0	82.0	191.91	1.428 Level 3		
11,900.0	7,899.5	11,855.2	7,743.5	118.1	119.7	55.37	-830.1	-4,241.1	274.5	78.3	196.21	1.399 Level 3		
12,000.0	7,900.0	11,955.2	7,743.0	120.9	122.5	55.21	-830.1	-4,341.1	275.0	74.5	200.49	1.372 Level 3		
12,100.0	7,900.4	12,055.2	7,742.6	123.6	125.2	55.05	-830.1	-4,441.0	275.6	70.8	204.77	1.346 Level 3		
12,200.0	7,900.9	12,155.2	7,742.1	126.4	128.0	54.89	-830.1	-4,541.0	276.1	67.1	209.03	1.321 Level 3		
12,300.0	7,901.4	12,255.2	7,741.6	129.1	130.8	54.73	-830.1	-4,641.0	276.6	63.4	213.27	1.297 Level 3		
12,400.0	7,901.8	12,355.2	7,741.1	131.9	133.5	54.57	-830.1	-4,741.0	277.2	59.7	217.50	1.274 Level 3		
12,500.0	7,902.3	12,455.1	7,740.7	134.7	136.3	54.41	-830.1	-4,841.0	277.7	56.0	221.72	1.253 Level 3		
12,600.0	7,902.8	12,555.1	7,740.2	137.4	138.6	54.25	-830.1	-4,941.0	278.3	52.8	225.47	1.234 Level 2		
12,645.5	7,903.0	12,598.5	7,740.0	138.7	139.3	54.18	-830.1	-4,984.4	278.5	51.6	226.98	1.227 Level 2, SF		

<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Rio-LA 6F-434
<b>Project:</b>	SEC.6-T1S-R67W	<b>TVD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Reference Site:</b>	Rio-LA 1S67W6E Pad Sec.6-T1S-R67W	<b>MD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Rio-LA 6F-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (8-4-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-5.17	61.9	-5.6	62.2				
100.0	100.0	100.0	100.0	0.1	0.1	-5.17	61.9	-5.6	62.2	62.0	0.22	276.688	
200.0	200.0	200.0	200.0	0.3	0.3	-5.17	61.9	-5.6	62.2	61.5	0.67	92.229 CC, ES	
300.0	300.0	300.0	300.0	0.5	0.6	174.74	61.9	-5.6	63.1	62.0	1.10	57.089	
400.0	400.0	400.0	400.0	0.7	0.8	174.95	61.9	-5.6	65.7	64.1	1.53	42.799	
500.0	499.9	499.9	499.9	1.0	1.0	175.26	61.9	-5.6	70.0	68.0	1.98	35.409	
600.0	599.7	599.7	599.7	1.2	1.2	175.63	61.9	-5.6	76.1	73.7	2.43	31.366	
700.0	699.4	699.4	699.4	1.4	1.5	176.04	61.9	-5.6	83.9	81.0	2.88	29.157	
800.0	798.9	798.9	798.9	1.7	1.7	176.44	61.9	-5.6	93.5	90.2	3.33	28.053	
900.0	898.3	898.3	898.3	2.0	1.9	176.81	61.9	-5.6	104.8	101.0	3.79	27.662 SF	
1,000.0	997.4	997.4	997.4	2.3	2.1	177.16	61.9	-5.6	117.8	113.6	4.24	27.756	
1,100.0	1,096.3	1,096.3	1,096.3	2.6	2.4	177.47	61.9	-5.6	132.6	127.9	4.70	28.194	
1,200.0	1,194.9	1,194.9	1,194.9	3.0	2.6	177.74	61.9	-5.6	149.1	143.9	5.16	28.882	
1,300.0	1,293.3	1,293.3	1,293.3	3.4	2.8	177.98	61.9	-5.6	167.3	161.7	5.62	29.759	
1,400.0	1,391.2	1,391.2	1,391.2	3.8	3.0	178.19	61.9	-5.6	187.2	181.1	6.08	30.781	
1,420.7	1,411.5	1,411.5	1,411.5	3.9	3.1	178.23	61.9	-5.6	191.6	185.4	6.18	31.007	
1,500.0	1,489.0	1,489.0	1,489.0	4.2	3.2	178.37	61.9	-5.6	208.3	201.8	6.55	31.822	
1,600.0	1,586.7	1,586.7	1,586.7	4.7	3.5	178.52	61.9	-5.6	229.5	222.4	7.01	32.716	
1,700.0	1,684.5	1,684.5	1,684.5	5.1	3.7	178.65	61.9	-5.6	250.6	243.1	7.48	33.488	
1,800.0	1,782.2	1,782.2	1,782.2	5.6	3.9	178.75	61.9	-5.6	271.7	263.8	7.95	34.160	
1,900.0	1,879.9	1,879.9	1,879.9	6.0	4.1	178.84	61.9	-5.6	292.9	284.4	8.43	34.751	
2,000.0	1,977.7	1,977.7	1,977.7	6.5	4.3	178.92	61.9	-5.6	314.0	305.1	8.90	35.273	
2,100.0	2,075.4	2,075.4	2,075.4	6.9	4.6	178.99	61.9	-5.6	335.1	325.8	9.38	35.739	
2,200.0	2,173.2	2,173.2	2,173.2	7.4	4.8	179.05	61.9	-5.6	356.3	346.4	9.85	36.156	
2,300.0	2,270.9	2,270.9	2,270.9	7.8	5.0	179.10	61.9	-5.6	377.4	367.1	10.33	36.531	
2,400.0	2,368.6	2,368.6	2,368.6	8.3	5.2	179.15	61.9	-5.6	398.6	387.8	10.81	36.872	
2,500.0	2,466.4	2,466.4	2,466.4	8.7	5.4	179.19	61.9	-5.6	419.7	408.4	11.29	37.181	
2,600.0	2,564.1	2,564.1	2,564.1	9.2	5.7	179.23	61.9	-5.6	440.9	429.1	11.77	37.463	
2,700.0	2,661.9	2,661.9	2,661.9	9.7	5.9	179.27	61.9	-5.6	462.0	449.8	12.25	37.722	
2,800.0	2,759.6	2,759.6	2,759.6	10.1	6.1	179.30	61.9	-5.6	483.1	470.4	12.73	37.960	
2,900.0	2,857.3	2,857.3	2,857.3	10.6	6.3	179.33	61.9	-5.6	504.3	491.1	13.21	38.180	
3,000.0	2,955.1	2,955.1	2,955.1	11.0	6.5	179.36	61.9	-5.6	525.4	511.7	13.69	38.383	
3,100.0	3,052.8	3,052.8	3,052.8	11.5	6.7	179.38	61.9	-5.6	546.6	532.4	14.17	38.572	
3,200.0	3,150.6	3,150.6	3,150.6	11.9	7.0	179.40	61.9	-5.6	567.7	553.1	14.65	38.747	
3,300.0	3,248.3	3,248.3	3,248.3	12.4	7.2	179.42	61.9	-5.6	588.9	573.7	15.13	38.911	
3,400.0	3,346.0	3,346.0	3,346.0	12.9	7.4	179.44	61.9	-5.6	610.0	594.4	15.62	39.064	
3,500.0	3,443.8	3,443.8	3,443.8	13.3	7.6	179.46	61.9	-5.6	631.1	615.0	16.10	39.208	
3,600.0	3,541.5	3,541.5	3,541.5	13.8	7.8	179.48	61.9	-5.6	652.3	635.7	16.58	39.342	
3,700.0	3,639.3	3,639.3	3,639.3	14.2	8.1	179.50	61.9	-5.6	673.4	656.4	17.06	39.469	
3,800.0	3,737.0	3,737.0	3,737.0	14.7	8.3	179.51	61.9	-5.6	694.6	677.0	17.54	39.589	
3,900.0	3,834.7	3,834.7	3,834.7	15.2	8.5	179.53	61.9	-5.6	715.7	697.7	18.03	39.701	
4,000.0	3,932.5	3,932.5	3,932.5	15.6	8.7	179.54	61.9	-5.6	736.9	718.4	18.51	39.808	
4,100.0	4,030.2	4,030.2	4,030.2	16.1	8.9	179.55	61.9	-5.6	758.0	739.0	18.99	39.908	
4,200.0	4,127.9	4,127.9	4,127.9	16.6	9.2	179.57	61.9	-5.6	779.2	759.7	19.48	40.004	
4,300.0	4,225.7	4,225.7	4,225.7	17.0	9.4	179.58	61.9	-5.6	800.3	780.3	19.96	40.095	
4,400.0	4,323.4	4,323.4	4,323.4	17.5	9.6	179.59	61.9	-5.6	821.4	801.0	20.44	40.181	
4,500.0	4,421.2	4,421.2	4,421.2	17.9	9.8	179.60	61.9	-5.6	842.6	821.7	20.93	40.263	
4,600.0	4,518.9	4,518.9	4,518.9	18.4	10.0	179.61	61.9	-5.6	863.7	842.3	21.41	40.341	
4,700.0	4,616.6	4,616.6	4,616.6	18.9	10.3	179.62	61.9	-5.6	884.9	863.0	21.89	40.416	
4,800.0	4,714.4	4,714.4	4,714.4	19.3	10.5	179.63	61.9	-5.6	906.0	883.6	22.38	40.487	
4,900.0	4,812.1	4,812.1	4,812.1	19.8	10.7	179.63	61.9	-5.6	927.2	904.3	22.86	40.555	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Rio-LA 6F-434
<b>Project:</b>	SEC.6-T1S-R67W	<b>TVD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Reference Site:</b>	Rio-LA 1S67W6E Pad Sec.6-T1S-R67W	<b>MD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Rio-LA 6F-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (8-4-15)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:		0.0 ft
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)				
5,000.0	4,909.9	4,909.9	4,909.9	20.2	10.9	179.64	61.9	-5.6	948.3	925.0	23.35	40.620			
5,100.0	5,007.6	5,007.6	5,007.6	20.7	11.1	179.65	61.9	-5.6	969.4	945.6	23.83	40.682			
5,200.0	5,105.3	5,105.3	5,105.3	21.2	11.4	179.66	61.9	-5.6	990.6	966.3	24.31	40.742			

Reference Depths are relative to WELL @ 5083.0ft (RKB -13')	Coordinates are relative to: Rio-LA 6F-434
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.500000	Grid Convergence at Surface is: 0.36°



<b>Company:</b>	PETROLEUM DEVELOPMENT CORP Weld County CO	<b>Local Co-ordinate Reference:</b>	Well Rio-LA 6F-434
<b>Project:</b>	SEC.6-T1S-R67W	<b>TVD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Reference Site:</b>	Rio-LA 1S67W6E Pad Sec.6-T1S-R67W	<b>MD Reference:</b>	WELL @ 5083.0ft (RKB -13')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Rio-LA 6F-434	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #1 (8-4-15)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 5083.0ft (RKB -13')

Offset Depths are relative to Offset Datum

Central Meridian is -105.500000

Coordinates are relative to: Rio-LA 6F-434

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.36°

